

**REPRESENTATIONS OF THE
ENVIRONMENT ON NEW ZEALAND
TELEVISION**

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by

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	4
ABSTRACT	5
1: INTRODUCTION	6
1.1: Structure of the Thesis	8
2: THE SOCIAL INFLUENCES OF TELEVISION	11
2.1: Ideology in the Mass Media	11
2.1.1: Mass Media in the Market System	11
2.1.2: The Environment in the Dominant Social Paradigm	12
2.1.3: Media Workers	14
2.2: Television's Impact	16
2.2.1: Medium Theory	16
2.2.2: Television's Sense of Place	17
2.2.3: The Significance of Stories	19
2.3: Television Narratives	20
2.3.1: Ideological Function of Narratives	22
2.3.2: Narratives and the Environment	25
2.4: Effects of Television on Audiences	26
2.4.1: Cultivation and Cultural Indicators Research	26
2.4.2: Mass Society Theory	28
2.4.3: The Minimal Effects Model	29
2.4.4: Agenda-Setting	30
2.4.5: Encoding-Decoding	32
2.4.6: The Information-Deficit Model	33
2.4.7: Summary of Media Effects	35
3: ENVIRONMENT AND MEDIA	38
3.1: Environmental News Coverage	38
3.1.1: Environmental Issue Cycles and Narrative Construction	38
3.1.2: Environmental News Values	41
3.1.3: News Sources	42
3.1.4: Environmental News and Empirical Reality	44
3.1.5: News Media and Audience Understanding	44
3.2: Broader Approaches to Analysing Media and Environment	47
3.2.1: Cultural Indicators Research	50
3.3: National Perspectives on Media and the Environment	52
3.3.1: Cultural Differences in Representations of the Environment	53

	2
4: NEW ZEALAND TELEVISION: AN OVERVIEW	54
4.1: Television and National Identity	54
4.2: The New Zealand Media Sector	55
4.2.1: The Current New Zealand Media Landscape	55
4.2.2: Local Content in a Commercial Environment	56
5: METHODOLOGY	58
5.1: Introduction	58
5.1.1: Definitions	58
5.2: Sampling	59
5.3: Coding and Analysis	60
5.3.1: Content Analysis	60
5.3.2: Narrative Analysis	61
6: CONTENT ANALYSIS	63
6.1: Non-news Programmes	63
6.1.1: Setting and Location	64
6.1.2: Funding	65
6.1.3: Episodes	65
6.1.4: Themes	65
6.2: News Programmes	67
6.2.1: Setting and Location	68
6.2.2: Episodes	69
6.2.3: Themes	69
6.3: Environmental Episodes	71
6.3.1: Frequency and Length	71
6.3.2: Level of Environmental Concern	72
6.3.3: Issue and Domain	72
6.3.4: Characters	75
7: NARRATIVE ANALYSIS	77
7.1: Traditional Knowledge on Television	77
7.1.1: Māori TV	77
7.1.2: Commercial Channels	79
7.2: The Environment and Consumerism	80
7.3: Children and the Environment	82
7.4: The Environment in News and Current Affairs	84
7.4.1: Informal References on Breakfast TV	84
7.4.2: Incidental Mentions in News Reports	87

	3
7.4.3: ‘Principled Nutters’: Representation of the Green Party	87
7.4.4: Political Debates	90
7.4.5: Visual Imagery in Environmental News	91
8: DISCUSSION	94
8.1: Prevalence of Environmental Content	94
8.2: Alternative Environmental Paradigms	96
8.2.1: The Environment on Māori TV	97
8.3: Dominant Portrayals of the Environment	98
8.3.1: The Environment as a Social Issue	99
8.3.2: The Environment as a Lifestyle Concern	101
8.4: Meanings of the Environment on Television	103
9: CONCLUSION	105
REFERENCES	108
APPENDIX I: LIST OF PROGRAMMES IN THE SAMPLE	117
APPENDIX II: CODING SCHEDULE FOR PROGRAMMES	121
APPENDIX III: CODING SCHEDULE FOR NEWS AND CURRENT AFFAIRS STORIES	123
APPENDIX IV: CODING SCHEDULE FOR ENVIRONMENTAL EPISODES	125

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ABSTRACT

This study is an analysis of environmental content on New Zealand-produced television. As a society, we are facing unprecedented environmental challenges. Television is an important source of environmental knowledge (Shanahan, 1993). It is important, then, to investigate what television is saying about the environment to gain an understanding of how this might shape public attitudes and action.

A content analysis was undertaken of 140 hours of television programming, across all genres, from four channels. A coding schedule was developed to identify environmental content on television. This gave information on the prevalence and common topics of environmental content, its relationship to other themes on television, and who is responsible for speaking about the environment. This was followed by a qualitative analysis of environmental content and its place within the narrative context of programmes.

The study found that television's attention to the environment is relatively infrequent, with a diverse range of issues and perspectives. Most television narratives focused on a human-centred world, with the environment portrayed as something that was not of direct relevance to daily life. While these portrayals were almost always positive towards the environment, they were frequently linked to consumerist values and were generally supportive of the social and political status quo. An exception to this was the channel Māori TV, where environmental issues were linked to traditional cultural knowledge and the natural world was of more relevance to everyday life. Overall, the prevailing commercial paradigm of television works against the dissemination of important environmental knowledge.

1: INTRODUCTION

Environmental issues will play a vitally important role in human society over the coming century. The Earth's climate is changing rapidly, in large part because of carbon dioxide emissions resulting from the burning of fossil fuels (IPCC, 2007). The potential consequences of climate change run far beyond the natural environment, extending into almost every aspect of human society. Food and water shortages, increased incidences of severe weather events, sea level rise, mass migrations and war are just some of the possible outcomes if environmental problems are not addressed (and it may already be too late to prevent some serious impacts) (Dyer, 2008). How Earth's population responds to such environmental challenges will have huge implications for the future of the planet.

Communication has a vital role to play in addressing environmental problems. The mass media are a powerful force in shaping social attitudes and understandings of the world (Shanahan, 1993). This is particularly the case for environmental issues, which are often intangible or not directly experienced. It is impossible to see the increased concentration of carbon dioxide in the atmosphere, or to know that sea levels are rising 3.1mm a year (IPCC, 2007). We might notice that the weather is warmer than it used to be, or that there are more storms or floods, but must rely on other sources to explain the reasons for this and put it in a wider context of global environmental change. Studies have shown that for most people in developed countries, the bulk of their knowledge about the environment comes from the mass media, and in particular from television (e.g. Bell, 1991; Stamm *et al.*, 2000; Shanahan, 1993).

Environmental issues, climate change in particular, have achieved increased visibility in the media in recent years. This has coincided with opinion polls showing increased concern amongst the public for these issues (e.g. ShapeNZ, 2008). However, this does not necessarily equate to meaningful environmental action on the part of the public. Indeed, many indicators of global environmental health are getting worse, despite the increase in concern (IPCC, 2007; World Bank, 2008). As Shanahan and McComas (1999) point out, "environmental mass communication is hardly ever the simple communication of a 'fact'" (35). As with mediated communication generally, many factors can influence what information about the environment is communicated through the mass media and the context in which it is located. These can include media

ownership, the commercial orientation (or otherwise) of the media outlet, the routines and norms of media workers and broader political, economic and social influences.

Most mass media outlets operate for commercial gain and are supported by advertising. The financial wellbeing of media therefore depends largely on the sale of consumer goods, and so there is pressure exerted on content providers to support this commercial agenda. But the values inherent in this ideology – consumerism, economic growth, material comfort – are often at odds with what is best for the environment, and are at the root of many of the environmental problems the planet faces today (Shanahan, 1993). The media's attention – and inattention – to the environment can be seen in terms of this ideology, with the environment often presented as subordinate to human progress and environmental problems unimportant if their solutions interfere with the dominant paradigm of economic growth (*ibid*). Given that the media are, for most people, the primary source of information about the environment, this has serious consequences for society's knowledge of and willingness to deal with pressing environmental problems. As Shanahan and McComas (1999) point out, "at some level, what we think and say about the environment really becomes almost more important than the environment itself, in the sense that what objectively happens in the world (which fuels we use, which gases get spewed, etc.) is a function of ... ideology" (8).

It is important, therefore, to investigate what is being said about the environment in the media. This study will examine how New Zealand television represents the environment. Since its introduction, television has become one of the most pervasive storytellers in society, disseminating meanings about how the world operates (Shanahan and McComas, 1999). Despite changes to the media landscape in recent years, television remains the dominant mass medium in society. The average New Zealander watches almost three hours of television a day, a figure that has remained fairly constant over the last decade (NZTBC, 2008a). The study will focus on portrayals of the environment across all genres of New Zealand-produced television, rather than just news content. The ways in which mass media affect audiences' understanding of the world are not limited to information delivered in the news. Entertainment media also contain information that can contribute to the way people perceive the world. Ungar (2000) argues that complex environmental issues need to be represented in popular culture in order for them to gain public acceptance. Attention to the environment in wider cultural circles outside of the

news can be seen as a barometer of the extent to which environmental issues penetrate the deeper cultural consciousness (Shanahan and McComas, 1999). More specifically, the ways in which the environment is integrated into television content, its place within narratives and relationship to commercial factors are indicative of how concerned society is with the environment. The stories about the environment circulated in popular culture may play a role in how people, individually and collectively, respond to environmental crises.

This study aims to give a picture of the environment as it is portrayed on New Zealand television. The New Zealand media landscape makes it an interesting case study. Though the media sector is highly deregulated, there are a variety of ownership structures and business models – the study will compare public, private and publicly-owned but commercially-run television broadcasters. Additionally, much New Zealand-produced content, even on commercial channels, is supported by government funding. Comparing environmental representations across funding models and ownership structures can provide insights into the influence of ownership and commercial pressures on environmental content. This study, then, will investigate:

- The prevalence of environmental content in New Zealand television.
- The treatment of the environment within New Zealand television, the importance attached to it and its place within narratives.
- Any differences between the channels in their attitude towards environmental content given their different ownership structures, and differences between programmes which are publicly funded compared to those that are not.
- Any similarities or differences in the New Zealand context to what has been found overseas.

1.1: Structure of the Thesis

The following three chapters consist of a review of relevant literature to this topic. Chapter 2 provides an overview of the influence of television in society. It begins by considering the place of mass media in the market system, and the implications of this for the types of messages disseminated through the media. The concept of the Dominant Social Paradigm (DSP) is used to describe the collection of beliefs and values a society uses to view the world, and how the mass media work to uphold it through the

widespread and constant repetition of ideas. A framework for understanding the role of the environment within the DSP is discussed, along with how a shift in prevailing societal norms may be needed to properly address global environmental problems. The chapter then addresses the dominance and influence of one medium in particular, television. The role of both the technological form and the impact of narratives are discussed, with specific reference to how these can impact on society's relationship with the environment. Finally, the chapter reviews several theories of media effects, detailing some of the processes by which television can exert an influence on social norms and individual attitudes and behaviours.

Chapter 3 focuses more specifically on portrayals of the environment in the mass media. Studies of how environmental issues are presented in the news media are reviewed. Certain characteristics of environmental issues affect how they are reported in the news – for example, as such issues are often ongoing processes with few discrete events, coverage is subject to narrative cycles in media attention and must display certain news values before they become news. Environmental stories often do not display the journalistic tenet of objectivity, and in many cases work to reinforce cultural myths and support the DSP. The nature of these portrayals has implications for audiences' attitudes and behaviours towards environmental issues, with television in particular shown to be an important influence. The chapter then turns to studies of portrayals of the environment beyond just news media. Evidence for importance of fictional and entertainment-oriented television programmes in shaping social attitudes towards the environment is presented, along with how environmental content on television generally fits within the commercial ethos of the medium. Finally, the chapter outlines previous research in this area in New Zealand, and discusses how particular national or cultural contexts can shape environmental representations.

Chapter 4 gives an outline of the New Zealand television landscape and the place of local content within it. It discusses the connection between television and national identity, and the unique features of New Zealand television and local production.

Chapter 5 details the study's methodology and analytical approaches. This study utilises both quantitative and qualitative analysis techniques. The strengths and

drawbacks of each are discussed, along with the advantages of using the two in combination.

Chapter 6 presents the results of the quantitative content analysis. Analysis of programmes is split between news programmes (including current affairs) and non-news programmes. For each, details are presented on their setting and narrative location, prevalence of environmental content within them, and major themes across the particular genres. This last focuses especially on the theme of nature, its prominence and with which other themes it is most closely associated. This is followed by a more detailed analysis of environmental content, focusing on the level of environmental concern, the prevalence of particular environmental issues, and the demographics of people associated with the environment on television.

Chapter 7 provides a more in-depth qualitative look at this environmental content. It compares representations on Māori TV with the other three channels, focusing on their differing attitudes towards the place of the environment in society. This is followed by analysis of how environmental content fits with television's consumerist messages, and the ways in which children are shown to interact with the environment. Analysis then moves to looking at incidental or background mentions of the environment and how these relate to dominant social conceptions of the environment. The chapter then discusses the discursive construction of the Green Party in news reports, before looking at the broader portrayal of the environment in the political arena. It concludes with analysis of some of the visual imagery associated with the environment in the news and the role this plays in environmental news construction.

The results and their implications are discussed in chapter 8. This chapter examines the extent to which environmental portrayals are consistent with the DSP, and how the presence of alternative environmental paradigms might challenge the current social order. The differentiated nature of the environment on television is discussed, along with how its presentation as both a social issue and a lifestyle concern could contribute to common cultural understandings. The chapter then outlines four primary conceptions of the environment through which the majority of environmental portrayals on New Zealand television are framed. Chapter 9, the conclusion, discusses the strengths and weaknesses of this study and outlines avenues for future research.

2: THE SOCIAL INFLUENCES OF TELEVISION

2.1: Ideology in the Mass Media

2.1.1: Mass Media in the Market System

Most media organisations operate in a commercial environment. They are usually owned by larger corporations, and are dependent on advertising for the majority, if not all, of their revenue. The dependence on advertising revenue means that the principle function of most media, and television in particular, is to encourage the sale of consumer products. Baker (1994) gives four main ways in which the incentive of advertising revenue affects media content: to treat advertisers' products and their broader interests favourably, to create a 'buying mood' that will encourage audiences to react favourably to advertisements, to reduce controversial elements in order to avoid offending potential customers and increase the media's potential reach, and to produce content appealing to middle- to high-income earners favoured by advertisers (44). Further, the fact that most media corporations are part of the global capitalist market system means that they have a vested interest in seeing the survival and expansion of this system (Schiller, 2000).

The integration with and dependence on the market system has ideological implications. A media system that works in the interests of particular groups will necessarily promote certain perspectives or worldviews at the expense of others. The media position the audience primarily as consumers whose individual desires must be fulfilled through the purchase of material goods (Schiller, 2000). The values promoted through the media are those that advance the interests of the industrial capitalist system. Common values identified are those of individualism, materialism, progress, competitiveness and economic growth (Wilkins, 1993; Horrocks, 2004b). This is the hegemonic image of society which is advanced through the media, and which attempts to define social reality. A market relationship of buying and selling becomes the dominant framework for viewing social interactions and politics (Schiller, 1989).

A useful framework for how ideology is used by elite groups to organise society in their interests can be found in Antonio Gramsci's theories of hegemony. Gramsci (1971; cited in Dispensa and Brulle, 2003) argues that the power of ruling groups is best wielded in the realm of culture, where they can get the consent of the population to rule,

so people “essentially agree to current social arrangements” (Croteau and Hoynes, 2003: 166). Hegemony, then, is not simply about ideological domination of one group by another. It works at a more subtle level of common sense, where assumptions about the way society works that are taken for granted by most people are in fact socially constructed. Hegemony, though, is not permanent, nor is it unalterable. It can be more usefully thought of as a process, whereby ruling groups have to continually reassert their dominance and fend off challenges from other competing ideologies. People’s actual experiences may lead them to question some of their assumptions, so the terrain of common sense must be constantly reinforced (Croteau and Hoynes, 2003). Potentially opposing forces are either discredited or incorporated into the dominant ideological framework.

The system of beliefs and values which is disseminated contributes to what is termed the Dominant Social Paradigm (DSP). Meadows (1991) writes that the paradigm of a society is “its deepest shared beliefs, its unspoken, almost unconscious commitment to how the world is” (71). A paradigm is “upheld by the constant repetition of ideas that fit within it” (*ibid*: 74), and Meadows argues that the power of the media in paradigm affirmation comes from their capacity to repeat information on a mass basis. Because of their institutional position, the media tend to “uncritically transmit, reflect and amplify the reigning societal paradigm” (*ibid*: 75). The current paradigm of human-centred progress, economic growth and the primacy of free markets has important consequences for many aspects of society, particularly those which cannot be adequately addressed through market relationships. One of the most important of these is the environment.

2.1.2: The Environment in the Dominant Social Paradigm

Media representations of the environment will be filtered through the lens of the DSP. The conception of the environment and the natural world within the DSP is not necessarily good for its preservation or survival (Shanahan, 1993). The environment in this context is most often simply seen as a “resource that funds human progress” (Shanahan and McComas, 1999: 16). Concern for the environment, therefore, often runs counter to hegemonic interests. The modern system of industrial capitalism is built on a framework of unlimited growth and unrestrained exploitation of natural resources, and this informs how the environment is situated in the DSP and how it is perceived in popular consciousness. As Shanahan (1993) argues,

It seems clear that the responsibility for our [environmental] problems rests not solely with particular actors, but with an overall system of consciousness trained largely to ignore the environmental impacts of our everyday behaviour. Surely nobody has been trained *specifically* to damage the environment, and so environmental damage is principally a consequence of the fact that we were concerned with other issues. What were these issues? Economic growth, technological progress, material comfort and fun probably lead the list (182; emphasis in original).

Improving the condition of the environment would require a significant change in our relationship to the natural world – a paradigm shift – which would be contrary to the short-term interests of many dominant players in society. Some have argued (e.g. Kempton *et al.*, 1995; cited in Shanahan and McComas, 1999; Einsiedel and Coughlan, 1993) that increased environmental awareness since the late 1960s has indeed resulted in a paradigm shift of this type, in which our primary concern as a society is now environmental preservation rather than economic growth. While awareness of environmental issues has certainly increased, as have some environmentally-friendly behaviours such as recycling, most evidence suggests that the old paradigm is still very much dominant. Worldwide carbon dioxide emissions have continued to rise, despite much discussion of the need to curb them (World Bank, 2008). The rate of per capita consumption also continues to rise, suggesting that people do not connect their everyday purchasing decisions to the environment (Ehrlich and Ehrlich, 2008). Shanahan and McComas (1999) conclude that any attitudinal shifts that have taken place are within the still-dominant Western-industrial social paradigm.

Shanahan and McComas (1999) define three terms to help describe the interplay between society and the environment. First, the *social construction of the environment* refers to current facts and opinions about environmental issues – identifiable perceptions, beliefs and attitudes that may be influenced by specific media coverage. These beliefs and opinions are formed within the context of the *social environment*, more deeply held, and often unquestioned, cultural assumptions and beliefs about nature. This is the level of ideology, where commonsense notions of what is ‘environmental’ are formed and reinforced. It is the social environment that is most heavily influenced by the DSP.

Finally, the *natural environment* is the actual, physical environment; the “‘ground’ on which all environmental communication must eventually achieve meaning” (*ibid*: 24). Although the system of the natural environment encompasses all others and exerts pressure on them, “social constructions of the environment need not correspond in any direct way to the experienced physical environment” (*ibid*: 24). In other words, common opinions about the environment may not reflect what is happening in the ‘real’ world of nature (surveys of public opinion have supported this, e.g. Bord *et al.*, 2000; Stamm *et al.*, 2000).

The mass media have an important role in contributing to the social construction of the environment and the social environment. Social constructions of the environment can be influenced by images and facts about the environment supplied by the media on a daily basis. It is at this level with which the majority of previous research is concerned. These media portrayals and images may be a symptom of deeper ideological commitments, and therefore a part of an overall pattern of representation in the media (Shanahan and McComas, 1999). Such effects are harder to detect, but it is at this level which this study will primarily focus. Delli Carpini and Williams (1994) argue that analysis at this level, which they term the “*foundations of politics*, or the processes or concepts upon which the very idea of politics and government is based” (*ibid*: 75, emphasis in original), is necessary for assessing the ideological commitments of media content. The ultimate question is the type of impact media systems have on the natural environment, and whether they can be brought into a more stable relationship with it (Shanahan and McComas, 1999). The most pervasive and influential medium in the world today is television, which has considerable power in shaping social norms and disseminating ideology. This study will analyse television’s portrayals of the environment across all genres of programming, with specific reference to the ideological commitments of environmental representations.

2.1.3: Media Workers

The ideology of the DSP is not simply transferred into media texts. Media content is created not by social elites or those who own media companies, but by media professionals – journalists, editors, writers, producers and so on. These professionals are not involved in a conspiracy to maintain the hegemony of social elites, and yet the content they create tends to reinforce the status quo of the DSP. There are a number of

factors which can account for this, mostly to do with the norms and routines of media workers. One is professional socialisation, the process by which media workers learn the acceptable practices and boundaries of their occupation. Standards and expectations “flow through the processes of recruitment and promotion, through policy, reward, and ... social osmosis” (Gitlin, 1980: 259). Once these are learnt and internalised, most will practice self-censorship on any material they know is likely to be rejected. Underlying these decisions are the knowledge of workers, and their superiors, that their position is dependent on the continuation of advertising revenue (Nelkin, 1987; Baker, 1994).

Journalism has its own unique pressures in this regard. The daily news cycle means that a set amount of ‘news’ has to be found and reported on every day. This leads to a reliance on official institutions and other groups who are equipped to get their message into the media through public relations, and who produce a steady supply of ‘newsworthy’ material (Nelkin, 1987). Underlying decisions about what becomes news are a set of ‘news values,’ qualities which events must possess for journalists to consider them newsworthy. Common news values include conflict, novelty, controversy, geographic proximity and relevance to the reader (Carvalho, 2007). Many of these values are “embedded in the very procedures used by reporters to impose some kind of order or coherence on the social world” (Allan, 1999: 51). Official happenings are seen as newsworthy because they provide a reliable supply of news which the organisation needs. Journalists’ perceptions of the audience are another crucial factor in shaping news values. These perceptions, however, are mostly shaped by accepted definitions of what makes a good or not so good story, and are therefore influenced more by socialisation than any real idea of what audiences want (Golding and Elliott, 1999). The idea of telling a good story extends to the form. In news coverage, accuracy can often fall victim to the demands of narrative. Journalists and news producers shape news into narrative packages to better engage their audiences (Shanahan and McComas, 1999). As many environmental stories have a strong scientific basis, this tendency can be especially pronounced in environmental coverage. Science places a premium on facts, while the media communicate using stories (*ibid*). Environmental news values will be discussed in more detail in Chapter 3.

Similar pressures affect media workers in non-news programmes, though are not as well researched, especially with regard to how such programmes portray social and

political issues. As Delli Carpini and Williams (1994) note, despite many entertainment programmes tackling social issues, the workers involved “clearly do not see themselves as journalists ... There are as yet no standards or doctrine (comparable to the doctrine of objectivity or fairness) for critiquing the way in which such issues are portrayed” (79). Dunleavy (2004) argues that New Zealand television drama has had to balance competing public and commercial objectives, requiring feats of “creative ingenuity” (211) on the part of workers to deliver high-rating programmes which also fostered a sense of local cultural identity. The requirement that publicly-funded programming in New Zealand aims for both objectives may mean that its ideological commitment is slightly different to purely commercial content. The maintenance of the DSP in the mass media is not a simple or linear process. Multiple factors can influence content at all stages of the production and distribution process, but the institutional structure of commercial television means that commercial objectives are usually paramount. This generally means television content will tend to be supportive, to a greater or lesser degree, of dominant social norms.

2.2: Television’s Impact

2.2.1: Medium Theory

Television is the dominant mass medium in Western society today. Research from the New Zealand Television Broadcasters’ Council (NZTBC) shows that almost all New Zealand households have a television set (NZTBC, 2008b), and the average New Zealander spends almost three hours a day watching television (NZTBC, 2008a). The medium itself has been held up as having considerable impact on society, and on the ways audiences think about the wider world and their relationship to it. The implications derived from such analyses can be both positive and negative. Proponents of the theory, known as medium theory or technological determinism, that media technologies in themselves can have powerful effects in society argue that the power of media technologies lie in the way they reshape social life and structure the ways in which people think about the world. The most well-known advocate of this approach, Marshall McLuhan, argues that the use of different technologies affects the organisation of human senses (McLuhan, 1962, 1964; cited in Meyrowitz, 1985). According to McLuhan (*ibid*), whichever communication technology is dominant in a particular time period or society shapes the forms of thinking and communicating in that society. For instance, written

culture, and print in particular, prioritises the sense of sight at the expense of other senses such as sound, touch and direct response. This form of communication allows people to become more rational, introspective and individualistic and, McLuhan argues, contributed to many of the features which characterise Western rational thought (*ibid*). McLuhan viewed electronic media, particularly television, as having the potential to reconnect the senses that had been fragmented by print. This would be akin to a return to pre-print oral culture, but on a global scale. Instantaneous communication facilitated by electronic media would turn the world into a “global village,” where everyone is involved in everyone else’s business and print-supported notions such as delegated authority, nationalism and linear thinking would begin to break down (*ibid*).

Other scholars have taken different approaches when describing the impact of new communication technologies on society. Postman (1987), like McLuhan, argues that television challenges the dominance of rationality and coherent, linear thought encouraged by print. Unlike McLuhan, though, Postman (*ibid*) argues that this has negative consequences for civil society, and leads to the trivialisation of politics and other serious social matters. Postman’s argument is that instantaneous communication, beginning with the telegraph, meant that people could receive information – news – from faraway places as soon as it happened. This news, however, had no relevance to their everyday lives – people were inundated with information but were powerless to act on it. This encouraged feelings of disconnection and powerlessness, emphasised by the fact the instantaneity of communication meant that the novelty of information was of primary importance. Events were not contextualised or linked to prior messages or events (*ibid*). This tendency was exacerbated once images were able to be recorded and transmitted in this way. Postman (*ibid*) argues that visual images alter the meaning of truth, making it something inherent in the image rather than something to be understood after a process of logical thought. In the age of images, “truth is in the seeing, not in the thinking” (Croteau and Hoynes, 2003: 309).

2.2.2: Television’s Sense of Place

Media technology is seen by some scholars as affecting how audiences conceptualise their physical place in the world. Meyrowitz (1985) argues that television breaks the connection between physical and social places, so that social interactions and relationships become possible without being physically present in a particular place.

Meyrowitz (*ibid*) argues that “electronic media affect social behaviour – not through the power of their messages but by reorganising the social setting in which people interact and by weakening the once-strong relationship between physical place and social ‘place’” (ix). Old roles and identities become reconfigured in response to new kinds of social situations precipitated by the new media technologies. Previously, many categories of people were restricted from receiving much social information. Children, for instance, had little insight into the ‘adult’ world; and many women may not have had much knowledge of the world outside their immediate domestic environment (*ibid*). Electronic mass media, by addressing everyone in society equally and in a way that everyone can understand, work to break down the social segregation that was once enforced by physical segregation:

Regardless of physical location and traditional group ties, people experience how the world looks and feels from other places and other role perspectives. Television’s views are, to be sure, distorted and incomplete, and often they are purposefully biased for political or economic reasons. Nevertheless, television “removes” viewers from their physical locales and offers them alternative views of other people and the physical environment (*ibid*: 144).

Meyrowitz (*ibid*) argues that this opening up of alternate perspectives may have been a stimulus for increasing awareness of ecological issues, and other such issues that require a big-picture view and an overriding of traditional group concerns.

Meyrowitz’ view that television breaks down social barriers is contrasted by others who maintain that television encourages isolation and individualism, and a disconnection from wider social and environmental issues. Larsen (1999) contends that watching television, as an everyday activity, focuses attention on the home. Everything that does not take place in this ‘home’ space is positioned and constructed linguistically as being ‘outside,’ ‘elsewhere.’ McKibben (1992) argues that because television dominates our consciousness to such an extent, it precludes the acquisition of essential knowledge about the natural world which would otherwise be gained through direct experience. Television can never properly represent the environment precisely because it is an experience mediated by technology. McKibben’s (1992) point is, in some respects,

similar to that of Postman (1987). People are now inundated with information for which they have little use, which distances them further from environmental reality. He argues that despite the vast quantities of information now available to us, we live “at a moment of deep ignorance, when vital knowledge about who we are and where we live seems beyond our reach” (McKibben, 1992: 9).

2.2.3: The Significance of Stories

While the medium of television itself has been argued to have a significant impact on society, there are many who reject this viewpoint as too simplistic. The introduction of a new medium, particularly one that was taken up as rapidly as television, will obviously have a social impact. There are certainly features of the medium that privilege or encourage particular ways of thinking and the type of information disseminated. However, examining this only as a function of the technology runs the risk of missing crucial social, political or economic factors which govern its use. When looking at the impact of technology, it is perhaps most useful, as Meyrowitz (1985) does, to examine it in terms of social practices. He does acknowledge that institutional factors and content are important in determining the effects of television in society, but argues that these are determined to a large extent by the technological form (*ibid*). Technology alone, however, is unable to account for matters such as the spread and maintenance of ideology and the representation of issues in the public consciousness. It does have a role to play – Postman (2000) argues that the way television is structured serves to “interrupt the continuity of programmes so that one’s thoughts cannot stray too far from considerations of consumership” (53). This is still dependent, however, on the institutional structure, such as commercial orientation and ownership, and on the content that facilitates the maintenance of hegemony. Shanahan and McComas (1999) argue that it is “the very powerful combination of form and content that makes television such an efficient machine for maintaining the DSP” (172).

The stories told by television, and their ability to shape culture and consciousness are of greater concern than technology to many researchers. The nature of the technology does play a role, exacerbating or influencing trends, but this is generally not seen as being of primary importance. For McKibben (1992), the key technological feature of television is its ubiquitousness. “If something exceptional happens,” he argues, “it hardly matters – it is quickly forgotten, averaged out, eroded by this ceaseless flood” (*ibid*: 214). Each line

of thought is instantly replaced by another, so there is no time for reflection or for meaning to sink in: “mostly TV just flows along” (*ibid*: 215). The notion of studying television as a flow of meaning, rather than looking at individual messages, can be a useful way of investigating television’s ideology. This mirrors the way many people use the medium: “very few people watch one hour a week. Most watch twenty-five or thirty-five hours, and the vast bulk of it is not exceptional” (*ibid*: 215). Horrocks (2004b) argues that conceiving of television as a continuous supply of information can give insights into the way the medium has been constructed. The way programming is organised and the dominant or recurrent meanings – the supertext of the medium – can reveal much about the ideological forces at work, particularly in relation to issues of ownership and commercial focus. Looking specifically at New Zealand television, Horrocks (*ibid*) examines how television changed after the neoliberal reforms of the 1980s when the television sector was commercialised and opened up to competition. All channels converged with a similar mainstream commercial style and ambience apparent across their schedules. Certain types of programming, even if government-subsidised and offered for free, did not fit with the new target audience of 18-54 year old upper-middle class household shoppers (*ibid*).

It is important, then, to study what is on television. Television content, though obviously influenced by political, economic and technological factors, is not irrelevant. The messages conveyed through the medium are a major source of information about how society operates and what is normal or acceptable – the “broad, underlying, global assumptions about the ‘facts’ of life” (Morgan and Signorielli, 1990). The structure of television content and common narrative forms can reveal a lot about how social interactions and issues – including those to do with the environment – are viewed through the dominant social paradigm.

2.3: Television Narratives

The content of television programming is of primary concern to many communication researchers. What is said on television, in whose interests, and what, if any, impact it has on the audience are the key questions in much television research. This school of thought takes the view that, while technological factors may play a role in the ultimate impact of a medium, it is how this technology is used, both by producers and

audiences, that is the main determinant of media influence. Taking this perspective of seeing television as a mechanism for delivery of meaning, “it is not a leap to see television and other mass media as an extension of a very ancient social institution: the local storyteller” (Shanahan and McComas, 1999: 51). McLuhan (1964; cited in Croteau and Hoynes, 2003), too, viewed television in this light, but focused on the differences in form rather than the types of stories being told. Other scholars, however, concentrate on what these stories communicate about culture and society. How a culture’s stories build representations about social roles, identity, acceptable behaviours and cultural boundaries are the central components of narrative theory.

Earlier narratives, forms of storytelling in primitive times, were often used as a tool for passing down essential information from one generation to the next. These stories would be repeated again and again, “codified in a million performances. Imagine their power (for good or ill) to order lives!” (McKibben, 1992: 217). This same principle can be applied to television, which many see as fulfilling the same role in society. McKibben writes, “[w]e respond to repetition, and TV offers it. It shows a million different programs, but they’re not *that* different” (*ibid*: 218). It is the human tendency to process information as stories, to apply a narrative framework to the communication of facts, that Shanahan and McComas (1999) argue shapes much media coverage. Referring specifically to environmental communication, they write:

Environmental mass communication is hardly ever the simple communication of a ‘fact’; what scientists may perceive as the misreporting and misunderstanding of scientific data and results can be seen as a natural outcome of audiences’ tendencies to use narrative structures for processing information. Similarly, journalists use narrative structures to build interesting environmental coverage. The studies on environmental communication show that media portrayals of environmental issues are presented from the start as stories; because journalists and media programmers must interest audiences, they must present their information in narrative packages (35).

So stemming from this human predisposition to use stories to process information is an economic incentive for media organisations to do the same. The content of these narratives is therefore shaped by the production process of the modern mass media.

2.3.1: Ideological Function of Narratives

Television, of course, is a vastly different and more complex system than a village storyteller. The stories it tells arise out of an industrial production process controlled by large corporations who are dependent on advertisers. As Gerbner (1998) argues:

Humans are the only species that live in a world erected by the stories they tell. The storytelling process used to be handcrafted, homemade and community inspired. Now it is the end result of a complex manufacturing and marketing process. ... For the first time in human history, children are born into homes where mass-produced stories can reach them on the average of more than 7 hours a day. Most waking hours, and often dreams, are filled with these stories. The stories do not come from their families, schools, churches, neighbourhoods, and often not even from their native countries, or, in fact, from anyone with anything relevant to tell. They come from a small group of distant conglomerates with something to sell (175-6).

Stories and narratives continue to have an important role in reinforcing the boundaries of society, which can be seen here as maintaining the DSP. This approach to media analysis questions the effects on culture, society, and, by extension, the environment as a result of a narrative system dominated by commercial interests.

Most mass media production and distribution is controlled by large corporations, whose primary (some would say only) motivation is to make money. These corporations use the media to further their own interests through creating programming which is attractive to both audiences and advertisers, thereby promoting an ideology of consumerism and market dominance. Narratives, then, can be seen as serving the interests of this ideology. Stories are constructed not as a way of communicating essential information, but simply as a way of selling something. It is the “economic structure of the media industries that determines their output, the kinds of stories they can tell” (Fulton,

2005: 3). Even non-commercial broadcasters must compete for audiences against commercial outlets in order to guarantee funding. The consequence of this is that narratives must attract the most suitable audience for the broadcaster's purpose. The primary function of television is to sell audiences to advertisers, so television narratives "have to display and reinforce the same sets of [values and lifestyles] as the desired audience" (Fulton, 2005: 4).

These audiences, however, are not pre-existing demographic groups waiting to be addressed by the media. They can more accurately be conceived of as constructed or virtual audiences, who are called into being. This occurs when they are "interpellated" or "hailed" by the text (Althusser (n.d.), cited in White, 1992). Audience members are asked by the text to "recognise and position [them]selves within its terms of reference" (White, 1992: 169). Individuals are positioned as social subjects, and where they see themselves in relation to the narrative and desired audience of the text, and use this knowledge to apply an appropriate interpretive framework. "The extent to which we feel ourselves to be part of an audience depends on whether or not we feel addressed by a media text ... Do we feel included in the world view and attitudes articulated by the text?" (Fulton, 2005: 5). Television uses narratives to construct distinct audiences, often segregated by age and gender (*ibid*). Viewers identify, through the common narrative conventions, whether they are the intended audience and thus whether the social meanings communicated by the text are intended for them.

There are unifying forces in most television narratives, mostly driven by the economic factors discussed above. In keeping with the values of individualism and consumer choice promoted through the DSP, most narratives in the commercial media position audiences as sovereign consumers, "consumers who have the power to make [their] own purchasing decisions and choices, pandered to by a subservient market eager to win our patronage" (Fulton, 2005: 5). Fulton argues that the crucial factor in media narratives of this sort is freedom: "free choice, free competition, free market and a free subject of discourse" (*ibid*: 6). This last point, the individual as a free subject of discourse, relates to the notion that audiences are free to interpret texts for their own purposes; that preferred readings encoded by producers have no effect as individuals bring their own interpretive frameworks to bear, making their own meanings to best suit their needs. Much cultural studies emphasises this power that individuals have to make

their own readings (see Morley, 1993). Fulton (2005), though, argues, that this too is an effect of discourse: “we are discursively encouraged by media texts to think of ourselves as singular, unified, individual, able to resist dominant or preferred meanings and to negotiate our own” (6). This works to construct audiences as free-thinking consumers, and put them in a position where they are ready to be sold something.

Narratives, then, can have an ideological function. Barthes (n.d.; cited in Fulton, 2005) uses the concept of ‘myth’ to describe a second level of discourse from which audiences can draw to interpret media texts. Myths “function as symbolic, ironic or metaphorical commentaries on what we understand to be literal meanings, offering us alternative readings imbued with ideological flavour” (Fulton, 2005: 6). A complex array of images and words and their respective meanings that make up a television programme come to constitute a signifier for a particular idea about society (Woollacott, 1992). Fulton (2005) argues that myths can be seen as “narrativised ideology, the formulaic articulation and naturalisation of values, truths and beliefs” (7). Narratives work to present ideological positions as if they were natural and normative, in the way they appear to tell stories about proper behaviours and social relations. Narratives in television drama, for example, reinforces myths about the existence of innate qualities of ‘good’ and ‘bad’; while television news mythologises the idea that there are universal truths and an objective reality which cannot be ideologically mediated (*ibid*). Images and film (including television) have a particular power to propagate myths, because they appear to simply record rather than transform or signify (Barthes, 1971; cited in Woollacott, 1992). Referring to news photographs, Hall (1972; quoted in Woollacott, 1992) argues that “by appearing literally to produce the event as it *really* happened news photos repress their selective/interpretive/ideological function ... At this level, news photos not only support the credibility of the newspaper as an accurate medium. They also guarantee and underwrite its objectivity (that is they neutralize its ideological function)” (99, emphasis in original). Myths remind us of who we are and what reality is, but function in the interests of the DSP. Audiences are constructed – hailed – as freely choosing consumers of global capitalism: myths tell us who we think we are, and as such “we are prepared to keep working to maintain the status quo of power” (Fulton, 2005: 7). According to Barthes (1993a; cited in Dant, 2003), myth achieves its ideological effect by abolishing the complexity of human acts and organising a world without contradictions. The “anonymous ideology” (*ibid*: 35) that imbues all culture is bourgeois in nature, working

in the interests of the ruling classes. By using narratives to construct audiences as part of the system, they will work to keep supporting it.

2.3.2: Narratives and the Environment

Narratives are a powerful force in shaping understandings of social relations and concepts. This is true of the environment, with stories having the power to influence perceptions especially at the deeper level of the social environment (Shanahan and McComas, 1999). Psychological research has found that ideological aspects of environmental thought (the social environment) are important in the later determination of relatively transient environmental attitudes and opinions (the social construction of the environment) (Gray, 1985; cited in Shanahan and McComas, 1999). This ideology, as described above, can be imparted through narratives, in the way they position their audiences and the myths that they propagate. Some technologically-focused arguments posit that television can come to damage people's sense of place and distance them from nature (Meyrowitz, 1985; McKibben, 1992). This perspective sees place as a socially constructed concept, and is important in shaping a person's conception of the environment. As well as the form of a medium impacting on a person's sense of place, Shanahan and McComas (1999) argue that narrative content and structure also impact on its construction. The common stories told about the environment in the media will reflect and reinforce the DSP, as do most narratives. The ideology of environmental narratives, then, work (and are indeed chosen) to legitimise human actions and current environmental practices. The common narrative idea of nature as a bountiful resource is, Shanahan and McComas (*ibid*) argue, a necessary preconception to actions that are understood as exploiting resources for human benefit. It is the narrative purpose of the text which drives such conceptions, so how nature is presented on television is a result primarily of the forces which shape television production rather than the natural environment imposing itself on the social. Shanahan and McComas (*ibid*) do point out that the social environment is built on the natural environment, the latter being an all-encompassing system which shapes and constructs everything within it. Human actions, however, are still relevant, as it is these which are responsible for choosing conceptions of nature to legitimise human actions (*ibid*).

The purpose of most narratives in the mainstream media is to generate revenue for the media company. On television in particular, programmes must be as attractive as

possible to both audiences and advertisers. As Shanahan and McComas (1999) note, the “discovery of the enormous power that accrues from connecting narrative skill to mercenary goals has contexted the entire development of the mass media” (59). The environment can suffer because of this, although often as an indirect consequence:

actors would have to be placed in scenes that would legitimize consumption, work, profit, and adherence to a broad set of middle-class values in which wealth and money would be the final arbiters of value. With individual work and achievement a dominant way to evaluate worth, the inherent environmental value of resources would be diminished. In a sense, to highlight individual achievement, one must downplay the value of natural resources (*ibid*: 59).

Modern media narratives diminish the importance of the environment in part through their focus on the individual. Shanahan and McComas (*ibid*) point out that one of the great stories of Western culture is that of the heroic individual who faces and overcomes challenges from a variety of external sources (usually representing, in some way, threats that are to be faced by the culture as a whole). This focus on individualism means that collective identities are downplayed, while the environment is “either demonized (as a challenge to the hero) or ignored” (*ibid*: 60). Although this narrative form has existed since pre-industrial times, following Barthes’ (1993a; cited in Dant, 2003) contention that all ideology is bourgeois in nature, it is used by ruling elites to maintain their position in society. Such narratives support the idea that individuals must “work hard in a heartless world” to overcome challenges, and that order will be guaranteed for those who stand alone (Shanahan and McComas, 1999: 60). This is reinforced by narratives positioning their audiences as free-thinking individual consumers, promoting the message that life’s (and nature’s) challenges can be overcome through the purchase of consumer goods.

2.4: Effects of Television on Audiences

2.4.1: Cultivation and Cultural Indicators Research

A major area of research that examines the relationships between television content, viewership and social attitudes is cultivation analysis. Developed by George Gerbner and his colleagues in the 1960s and 1970s, it attempts to chart the types of

messages that are repeated in television, and measure their long-term cumulative effects in audiences (Gerbner, 1998). The analysis focuses on audiences' regular, habitual use of television, rather than the effects of individual programmes or genres. By comparing analysis of the content of television with surveys of audience attitudes, researchers are able to draw inferences about the cumulative effects of television exposure. Several clear trends have emerged from cultivation research. The main points of comparison are between heavy and light viewers of television. Findings suggest that television culture produces a 'mainstreaming' effect in audiences, where differences based on cultural, social and political characteristics are muted in heavy viewers. In other words, one of the impacts of television is to produce a greater degree of agreement in heavy viewers who would otherwise disagree based on other demographic characteristics (Shanahan, 1993). One of the key assumptions of cultivation research, therefore, is that "repeated exposure to a set of messages is likely to produce agreement in an audience with the opinions expressed in (or attitudes consonant with) those messages" (*ibid*: 187). Because television presents a distorted view of the world, shaped in the interests of the DSP, cultivation theory argues that heavy viewers are more likely to assume that the world presented on television is closer to reality.

The most prominent cultivation work has been in the area of media portrayals of violence. Analysis of the content of television found that television portrays crime and violence as occurring more frequently than it does in real life. In audience surveys, heavy television viewers were more likely to view the world as a dangerous place, and hold the beliefs that people could not be trusted and that most people are selfishly looking out for themselves (see Signorielli and Gerbner, 1988 for an outline of studies). This focus on the importance of individual needs at the expense of others echoes the dominant narrative theme of individualism outlined above. On political issues, heavy viewers tend to be more conservative than lighter viewers, holding generally more right-wing views on issues such as race, homosexuality and abortion, although they describe themselves as moderates. They are more likely than lighter viewers to support conservative calls for lower taxes, but are also more likely to support populist arguments for increased social services (Gerbner *et al.*, 2002). With regards to the environment, cultivation acts in a slightly different way, as it is television's lack of attention to the environment that is the primary driver in shaping viewers' conceptions of environmental reality (Shanahan, 1993). Heavy viewers of television were found to be less knowledgeable about

environmental issues than lighter viewers, but also more fearful of environmental consequences (in line with the distrust and fear television has been found to cultivate in other studies) (Shanahan and McComas, 1999).

Cultivation research has been somewhat controversial, with many researchers questioning the validity of the findings (see Blumler and Gurevitch, 1992 for a summary). Relationships between television viewing and perceptions of social reality, although consistent, are relatively weak. One of the main perceived problems has been the failure to account for causation. Some have suggested that heavy viewers “may bring a more simplistic and wary point of view to their experiences of television instead of taking over that point of view from its programmes” (Blumler and Gurevitch, 1992: 260). Television may not be the factor which causes people to be less trusting of others or see the world as a more violent place – is it possible that audience members who are predisposed to this worldview are more likely to watch more television. Another criticism of the research has to do with whether the social constructions of reality offered by the media are internally consistent and hence monolithic, all working to build a coherent worldview in support of the DSP, or whether they should be seen as essentially differentiated (*ibid*).

Any effects that television has on society are contingent on how the medium is used, and how its messages are interpreted, by its audience. Mass media do not have predictable or inevitable effects in audiences as a whole. Individual audience members will bring different interpretations to their television viewing depending on a wide variety of other variables such as age, gender, ethnicity, socio-economic status, past experiences and so on. As such, it is difficult to get a clear picture of the influence the mass media do have on people’s attitudes and behaviours.

2.4.2: Mass Society Theory

Early theories of media effects emphasised the power of the media over individuals, suggesting that media messages can *cause* certain behaviours. Sometimes referred to as the hypodermic model (because of the implication that the media ‘inject’ messages directly into the public’s consciousness), this theory has been largely rejected as too simplistic (Croteau and Hoynes, 2003). More nuanced versions of this theory began to emerge in the 1930s, and particularly after World War II. Mass Society Theory argued that society was being increasingly homogenised, with less interpersonal communication.

Traditional bonds of community and extended family were giving way to smaller and more fragmented nuclear families who spent less time with one another. Community and neighbourhood participation was made less possible with the rise of dispersed and isolated suburbs. At the same time, centralised mass media – especially television – were becoming increasingly prevalent. Mass Society theorists argued that television served as a homogenising force, uniting a disparate and atomised population who became susceptible to the influence of media messages (Croteau and Hoynes, 2003). Large numbers of people were now in contact with one another, receiving the same messages, with huge potential consequences for society. As summed up by the editors of the journal *Public Opinion Quarterly* in its first issue in 1937, “Always the opinions of relatively small publics have been a prime force in political life, but now, for the first time in history, we are confronted nearly everywhere by mass opinion as the final determinant of political, and economic, action” (quoted in Beniger, 1987: S46).

Although Mass Society theory in itself had been largely abandoned by the early 1960s (Beniger, 1987), elements of it remain in other research traditions. It can be found in the work of more technologically-focused writers such as Postman (1985) and Meyrowitz (1985), who argue that the introduction of a new media technology is primarily responsible for the changes in social patterns. Cultivation, for instance, uses the mass society model of “atomized individuals at the mercy of a centralized media” (Beniger, 1987: S51) who are socialised into the mainstream of a common symbolic environment (critics of cultivation hypothesis have argued that it is simply a rehash of discarded Mass Society models (Blumler and Gurevitch, 1992)).

2.4.3: The Minimal Effects Model

Mass Society theory was largely displaced by a ‘minimal effects’ model of communication. This argued that media messages worked to reinforce existing beliefs rather than to change people’s opinion (Croteau and Hoynes, 2003). Studies concluded that social characteristics such as race, class, religion and interpersonal communication were much more important in shaping attitudes and behaviour than were the mass media. A synthesis of various media effects studies of the time concluded that “even what small changes might be due to mass communication will rarely constitute more than a blip in opinions already held, or in what people already intend to do” (Klapper, 1960; cited in Beniger, 1987: S50). The minimal-effects model gave a lot more weight to the power of

audiences to bring their own experiences and interpretations to media content. Theories developed since then have attempted to find a balance between the two extremes, in attempting to evaluate the respective roles of the media in shaping attitudes and opinions, and the audience's ability to resist and bring their own interpretations. Most of the newer theories focused not on the power of persuasive messages themselves, but on the processes involved in how these messages are shaped: "all the new approaches sidestep questions of persuasion and conversion to concentrate on more complex *processes involving information*, whether on the individual level as cognitions or on the societal level as ideology or culture" (Beniger, 1987: S57, emphasis in original). Both audiences and media are seen as actively working to shape and interpret media content, rather than passively transmitting or receiving it.

2.4.4: Agenda-Setting

The theory of agenda-setting came to prominence in the late 1960s and challenged many of the conclusions of the minimal-effects model. This theory posits that media, news in particular, are responsible for the issues the public considers important – the more attention the media give to an issue, the greater the level of concern amongst the public. This was classically summed up by Cohen (1963; cited in McCombs and Shaw, 1972) who wrote that the press "may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about" (177). The theory originally hypothesised that while the media agenda sets the public agenda, it had little influence on the direction or intensity of attitudes (McCombs and Shaw, 1972). Although many studies have supported the agenda-setting theory (see McCombs and Shaw, 1993), others have found relationships to be less clear. Agenda-setting may be most pronounced when individuals have not direct contact with an issue, while issues that directly affect an individual's life may be more resistant to media influence (Brosius and Kepplinger, 1990; cited in Croteau and Hoynes, 2003). This is of significance to environmental issues, which for many people do not have a high degree of personal salience. In experimental studies, Iyengar and Kinder (1987) showed participants edited news broadcasts which placed varying degrees of emphasis on certain issues, including the environment. Participants were questioned about their beliefs of the importance of these issues both before and after watching. In every case, participants attributed significantly more importance to an issue if they had seen it in the newscast. Some agenda-setting effects were detected after only one viewing, though effects were

stronger after several viewings. Iyengar and Kinder (1987) conclude that “[t]he evening news would seem to possess a powerful capacity to shape the public’s national priorities” (21). However, effects are not lasting, and shift along with media coverage: “[w]hen television news focuses on a problem, the public’s priorities are altered, and altered again as television news moves on to something new” (*ibid*: 33).

Iyengar and Kinder (1987) also demonstrated that television news has a priming effect. They demonstrated that when evaluating a political figure, audiences will not use all the information they know, only what immediately comes to mind. Television was found to be a powerful force in determining which issues are ‘primed’ to enter people’s minds (*ibid*). The priming effect is an extension of agenda-setting: “by making some issues more salient in people’s mind (agenda setting), mass media can also shape the considerations that people take into account when making judgments about political candidates or issues (priming)” (Scheufele and Tewksbury, 2007: 11).

Television, then, appears to tell people more than just what to think about. Further agenda-setting research placed more emphasis on how the media shapes and frames issues and how this influences the public agenda, and also who sets the media’s agenda (see e.g. McCombs and Shaw, 1993; McCombs and Ghanem, 2001). This is in line with the general research trend outlined above, focusing on processes of influence rather than whether the media have direct, measurable effects. This has implications for ideology – McCombs and Shaw (1993) argue that “the key agenda-setting role of the media may be the promotion of social consensus on what the agenda is” (64). Iyengar and Kinder (1987) claim that although television news is generally objective, it is far from neutral, taking place within boundaries established by official sources and dominant values. Television has great power to set the public agenda and define the criteria by which audiences evaluate public figures and events, conveying “unusual and distinctive views of politics – views that eventually become our own” (112). This is similar to the contention of cultivation research that repeated exposure to a set of messages on television leads to agreement in the audience with these messages. More recent agenda-setting research has focused the ‘attributes’ associated with issues in the media agenda, the “characteristics and properties that fill out the picture” of each object in the media (an ‘object’ is any issue, public figure, social institution etc. portrayed in the media) (McCombs and Ghanem, 2001: 68). The various attributes of each object can also vary in salience and

contribute to the way they are perceived. This ‘second-level’ agenda-setting “suggests that the media also tell us *how to think* about some objects” rather than simply what to think about (*ibid*: 69; emphasis in original).

2.4.5: Encoding-Decoding

Another influential model of media influence is the ‘encoding-decoding’ model, developed by Stuart Hall (Hall, 1980). This takes into account both messages and their interpretation by audiences. The model views media content as constructed according to certain codes, knowledge of which is required by the audience so they can understand or “decode” the messages. Mass media are so ubiquitous in society that competence in decoding media messages is mostly taken for granted, such that audiences do not really think about it (Croteau and Hoynes, 2003). Certain codes appear not to be constructed; to be ‘naturally’ given. This “has the (ideological) effect of concealing the practices of coding which are present” (Hall, 1980: 55). The processes of mediation shape events by converting them to language forms, with all their associated connotations and ideology. As Hall (1980) writes,

A ‘raw’ historical event cannot, *in that form*, be transmitted by, say, a television newscast. Events can only be signified within the aural-visual forms of the televisual discourse. In the moment when the historical event passes under the sign of discourse, it is subject to all the complex formal ‘rules’ by which language signifies. To put it paradoxically, the event must become a ‘story’ before it can become a *communicative event*. ... The ‘message form’ is the necessary ‘form of appearance’ of the event in its passage from source to receiver. Thus the transposition into and out of the message form (or the mode of symbolic exchange) is not a random ‘moment’, which we can take up or ignore at our convenience (52; emphasis in original).

The transformation of reality into discourse serves to encode the message with ideological subtext, shaped by the media production process. Hall (1992) argues that the media do active work in defining reality, and giving particular meanings to events that work in the interests of the dominant ideology. They do not merely reflect society, but are involved in the “active work of selecting and presenting, of structuring and shaping; not

merely the transmitting of an already existing meaning, but the more active labour of *making things mean*” (*ibid*: 64; emphasis in original). This is only a part of the communication process, though. The communication must also be integrated into social relations in order to be understood.

The connotative level of televisual discourse is relatively open to transformations, active interpretations by audiences who exploit its polysemic values. Media representations are open to multiple readings, but not all of these are equal (Hall, 1980). Societies and cultures tend to impose their classifications of the social, cultural and political worlds. In a process similar to the imposition of Hegemony, these classifications “constitute a *dominant cultural order*, though it is neither unequivocal nor uncontested” (*ibid*: 57; emphasis in original). Discourses have encoded in them dominant or preferred meanings, but these are not inevitable – the possibility always exists for an alternate interpretation. However, although there is no necessary correspondence between the two, “encoding will have the effect of constructing some of the limits and parameters within which decodings will operate” (*ibid*: 58). Hall identifies three hypothetical positions from which televisual discourse can be decoded. In the dominant-hegemonic position, the viewer is operating inside the dominant code. In the negotiated position, the viewer acknowledges the legitimacy of hegemonic definitions on an abstract level, but takes exception to certain examples, often related to their own particular situation. In the oppositional position, the viewer decodes the message in a globally contrary way within an entirely alternative framework (*ibid*).

2.4.6: The Information-Deficit Model

One media effects framework with particular relevance to environmental communication is the information-deficit model. Studies of public understanding of environmental news have often focused on what audiences can recall. Most of these studies have found understanding to be limited, with much confusion as to the nature and causes of environmental problems (e.g. Bord *et al.*, 2000; Stamm *et al.*, 2000; Murch, 1971). Public opinion research has also found, however, that despite this apparent widespread misunderstanding of environmental ‘facts,’ most people are concerned about environmental issues. However, this is usually not reflected in their behaviour. While people may make some relatively small changes to their behaviour, such as turning off lights or recycling, they rarely make environmentally conscious transport or purchasing

decisions (Plotnikoff *et al.*, 2004; cited in Potter and Oster, 2008). The survey conducted by Bord *et al.* (2000) shows that people tend to underestimate the effect of transport and electricity use on climate change. The main explanatory framework for interpreting such findings is the information-deficit model, which assumes that “people are rational, responsible actors who simply require appropriate information in order to alter their behaviours and support policy change” (Potter and Oster, 2008: 119). This model has been heavily criticised on a number of grounds, including that it does not take into account complex cognitive and social processes, or structural and institutional constraints that may affect people’s actions. Rather than arising from a lack of information, these constraints “emerge from the relationship between the individual and the milieu of institutions and communities in which the individual exists” (*ibid*: 120).

The information-deficit model would assume that the environmental awareness of the population could be raised by simply increasing the amount of news coverage dedicated to environmental issues. This is supported by agenda-setting studies which have found that awareness is influenced mostly by the amount of coverage, and not its nature (Mazur and Lee, 1993). The meanings audiences take from the media are important, however, as awareness or even understanding of an issue does not always lead to behavioural change. Shanahan (1993) argues that

it was not a lack of environmental news which prevented us from acting in a ‘concerned’ way in the past; rather we simply failed to even consider that environmental resources should be evaluated as part of the overall economic equation. ... [M]erely increasing the flow of environmental news, while a necessary step, does not attack the ideological base of the problem, which is a fundamental mental tendency to ignore the environment when making everyday life decisions (183).

Giving people more environmental information or ‘facts’ is unlikely to result in the development of an environmental consciousness or transition to a New Environmental Paradigm, which some argue is necessary in order for ecological disaster to be averted (Shanahan and McComas, 1999). Issues and facts do not in themselves communicate, they are made meaningful to audiences through the way they are mediated and incorporated into a story. Focusing on narratives and how they are interpreted, rather than

simply conceptualising the process as a flow of information, may yield greater understanding of how both individuals and societies as a whole interact with the environment.

2.4.7: Summary of Media Effects

There are many competing factors at play in how worldviews and paradigms are constructed and reinforced, and the role the media have in this process. As the principal vehicle for the delivery of meaning in Western society, the mass media (and television in particular) are important in disseminating ideology, usually in the interests of the corporate elite who control most media production. This is not an inevitable, irresistible or unchanging process, however. Media texts are created by workers who have the ability to inflect texts with different or alternative ideological slants, although they usually do not for reasons of organisational socialisation and professional norms. Contrary worldviews that do appear in public discourse will be countered hegemonically by dominant interests, and are often isolated instances. Particularly successful or resilient aspects of alternative ideologies can also be integrated into the dominant paradigm (an example would be companies using 'green' imagery in their advertising (Shanahan, 1993)). Organisational routines mean that media content is organised into narratives, which work to shape audience's understandings of the world. These narratives are generally structured in support of the DSP, emphasising individual achievement and human dominion over nature. Individual narratives and media events can shape relatively transient and short-term attitudes and priorities in the audience. It is here that the agenda-setting effect can be observed, with public concerns mirroring those in the media. Deeper and more long-term effects come with the continual repetition and reinforcement of the same types of narrative themes and concerns, framed in the same way. This leads to priming, which influences the way audiences think about certain issues or people and the mental constructs used to evaluate messages. This long-term exposure to a relatively consistent set of messages works to cultivate a television worldview, where many of the representations of the world as presented on television are internalised by audiences. This is the level at which ideology operates, building up largely coherent and consistent pictures of the world and commonsense notions of social and environmental relations. Again, such effects are broad and by no means all-encompassing. Each audience member will bring a different interpretive framework to their media use, and will decode texts in

different ways depending on their personal situation. However, certain decodings are privileged by the production and distribution factors outlined above.

The role of the media in disseminating ideology to audiences is not necessarily a causal or one-way process. Audience agendas have been shown to influence the media, and the producers of media content are themselves audiences. The reproduction of hegemony in society can more usefully be thought of as a cycle of influence, with various parts all affecting one another (Shanahan, 1993). Mass media are certainly not the source of ideology or all of the aspects of the DSP. The media do reinforce the DSP and, due to the nature of media production and distribution, can influence changes in the dominant paradigm that suit the interests of their owners or because of the technology itself. In the case of the environment, for example, it would be impossible to lay the blame for all environmental degradation at the feet of the media. Exploitation of the environment has long been a part of Western tradition. The idea that natural resources should be subservient to the demands of industrial capitalism has its roots in the industrial revolution of the nineteenth century, and notions of humankind's dominion over nature have been around longer still. Such ideas were already a part of the DSP by the time the mass media emerged. The mass media did contribute to the maintenance of this worldview, however, as it was in the interests of capitalist market system of which media are a part. As Shanahan (1993) argues, "television's role, if not directly causal, is as a systemic factor which can work against environmental improvement in a cyclical fashion" (195).

Of course, as Gramsci's hegemony theory points out, paradigms and ideologies are not static. For instance, there are many aspects of the nineteenth century DSP, common sense at the time, which today we would find, at best, quaint, and at worst, offensive. Since the rise of environmentalism as a social issue in the 1960s, scholars have been debating whether we are seeing a paradigm shift towards greater environmental awareness. What is not in question is that the environment, as an issue, has become much more visible in the last four decades. The issue is whether this increased visibility is promoting a shift in consciousness, or whether mainstream depictions of the environment merely serve to reinforce the dominant paradigm. Einsiedel and Coughlan (1993) argue the former, stating that "the evolution of the environment as a topic of coverage and as a social issue demonstrates, as some would argue, an important paradigm shift that sees

limits to growth imposed where these might have been unthinkable in the past” (148). Others, such as Shanahan and McComas (1999), point out that a true paradigm shift would “produce behavior changes unlike anything we have currently seen, including a radical downsizing of social structures, major value changes, and massive political restructuring” (15). The next chapter reviews studies of how the mass media portray the environment, with particular reference to the ways in which these portrayals interact with the DSP.

3: ENVIRONMENT AND MEDIA

3.1: Environmental News Coverage

Most of the academic research that has been conducted into how the mass media represent the environment has concentrated on news media coverage, and most of this on newspapers and magazines rather than television. Aside from analysis of text-based media being easier to conduct, Shanahan and McComas (1997) argue that news “is typically seen as the appropriate channel for environmental content, because environmentalism has been seen primarily as a sociopolitical ‘issue’” (148). Cottle (1993) writes that the focus on news is unsurprising, given the emphasis placed on news media in liberal-democratic theory for ensuring a well-informed public. Although this study will be examining environmental content across all genres of television, studies of news are nonetheless instructive. A significant portion of the content to be analysed here is likely to be news or current affairs, and as the bulk of previous scholarship lies in this area it is worth examining the findings of such studies.

Environmental issues tend to be relatively unobtrusive – their effects are often not directly observable in audience members’ everyday lives. Many environmental problems also operate over long time-scales, with no clear ‘events’ which could make them newsworthy. These factors, combined with the relative unimportance assigned to the environment in the DSP, mean that environmental issues are at a disadvantage in the news media (Downs, 1972). Because environmental issues are often not seen as newsworthy in their own right, they frequently gain the media spotlight only as a part of other issues, especially those to do with politics or business (Wilkins, 1993). The frames and sources associated with these stories can heavily influence how the environment is portrayed. As Hansen (1993) points out, “environmental problems by and large depend for their public visibility on complex processes of claims-making activity” (xv).

3.1.1: Environmental Issue Cycles and Narrative Construction

The unobtrusive nature of most environmental issues also mean that they are more subject to the vagaries of news production processes than other issues. Downs (1972) theorises an “issue-attention cycle” which charts the life-cycle of issues through the news media. The cycle has five stages. In the pre-problem stage, the issue is recognised by

experts but has not yet captured public attention. In the second stage, which Downs (*ibid*) terms “alarmed discovery and euphoric enthusiasm” (n.p.), the public becomes alarmed and there is a surge of enthusiasm about society’s ability to solve it quickly without any changes to the structure of society itself. The third stage, realising the cost of significant progress, is characterised by acknowledgement of the costs of taking major action and the fact that doing so would require major sacrifices by large segments of the population who currently benefit from existing arrangements. The fourth stage is marked by a gradual decline in public interest as audiences get discouraged, feel threatened or get bored and shift their attention to another problem entering stage two. The fifth and final stage, the post-problem stage, is marked by the issue fading from public view, with occasional bursts of interest (Downs, *ibid*). Downs (*ibid*) argues that environmental issues are a good candidate to pass through the cycle, as they are not visible to or do not directly affect a majority of the population, sufferings caused by environmental problems benefit a powerful minority of the population (meaning solving it requires sustained effort and changes to institutions and behaviour), and such issues often have no intrinsically exciting qualities so the public easily gets bored by them. However, Downs (*ibid*) identifies some factors which might work to keep environmental issues in the media (and public) spotlight and prevent them from reaching the post-problem stage. Some problems, such as air pollution, are highly visible to people which could sustain attention. Also, as the issue threatens the entire population, it cannot be so easily ignored as some other social problems such as poverty. Finally, public outrage can easily be directed at a small group of “villains” who are seen as causing most of the damage, so the majority of the population does not have to re-examine its own behaviour, though as Downs (*ibid*) notes, “[t]he very abundance of our production and consumption of material goods is responsible for an immense amount of environmental pollution” (np). This could sustain media coverage, in other words, but may not be useful in terms of actually solving environmental problems (see also Wilkins, 1993).

There are other factors, apart from the intrinsic qualities of issues themselves, which affect media attention. McComas and Shanahan (1999) conducted an empirical study of newspaper attention to climate change between 1980 and 1995. They found that levels of coverage did correspond to the stages in Downs’ cycle, with coverage increasing rapidly, peaking, and then falling away. They argue, though, that it is not only the nature of climate change as an issue which was responsible for this cycle, but also the ways in

which the constraints and demands of the news production process influenced coverage. Specifically, they criticise Downs' (1972) model for being too linear and for ignoring social and cultural considerations, and claim that "news media actively construct narratives about issues such as global warming and that these constructions are driven primarily by dramatic considerations" (McComas and Shanahan, 1999: 37). Real-world events are given dramatic retellings to satisfy narrative demands, as part of a media system "geared to tell and sell stories" (*ibid*: 53). McComas and Shanahan (*ibid*) found that there was a shift in emphasis as the issue cycle progressed. Predictions of dire consequences of climate change were common early on, but these gave way to stories about scientific controversy and economic factors. The fact that news items about consequences and reports of new evidence and research became less prominent, despite advances in scientific understanding, suggests narrative considerations were more influential in news coverage than real-world events (*ibid*). They offer the following narrative explanation for the issue's rise and fall:

The dangers and consequences of global climate change emphasized on the rise of newspaper attention to the issue presumably drew attention to the story's plot. ... To complicate the plot and sustain drama, scientific disagreements received greater attention as opposing interests sought to establish doubt in the certitude of the dramatic scientific claims of the late 1980s. The costs of resolving the problem were also increasingly emphasized, as the political elements of climate change such as international efforts needed to resolve the problem became more prominent. ... [T]he switch in story line and the decrease in newspaper attention combined to suggest that a resolution was near: Global climate change was being taken care of, if indeed the condition existed at all, and public attention could move on to other more pressing issues (*ibid*: 51).

Journalists' practice of shaping stories according to narrative conventions comes as a result of occupational norms. As discussed above, these narratives, through the cultural myths upon which they draw, can have major implications for the way audiences understand issues and how they see the world generally.

3.1.2: Environmental News Values

To become news in the first place, stories have to first come to the attention of journalists, and then be deemed newsworthy. News values for environmental stories have been found to be largely the same as for other types of stories (Hansen, 1994; Nelkin, 1987), although Anderson (1997) identifies three major factors which increase the chances of environmental issues becoming news stories. First, stories should be event-centred, focused around individuals who can be ‘blamed’ rather than wider structural or social factors. Wilkins (1993) found that “[i]ndividualism also tended to focus news accounts on single human beings rather than systemic political or social analysis of change” (81). This individualisation of societal problems is also identified by Downs (1972) as a way for audiences to avoid examining their own behaviour. Second, stories should have a strong visual component, especially for television (Anderson, 1997). As put by a former BBC News environment correspondent, “above all environment stories need really good pictures ... global warming is difficult because you can’t actually see global warming” (quoted in Anderson, 1997: 121). Wilkins and Patterson (1987) argue that one of the most fundamental problems in the way the media, and television in particular, report environmental stories is their “necessary reliance on images to convey a story” (87). This means issues are treated as novelties and placed outside their wider context (*ibid*). Third, events should happen on a cycle that coincides with the daily routine of news production (Anderson, 1997). Wilkins (1993) found that over half of climate change stories were tied to a specific political event, and many others were tied to specific environmental or weather events. Many environmental stories have a scientific frame. As Bell (1994) points out, the “methods, timeframes and purposes of scientific research differ widely from those of news media” so scientific findings are often distorted (260). All of these factors can mean that issues such as climate change, which are long, drawn-out processes with no clear ‘events’ or striking visuals, are often ignored (Anderson, 1997).

There are other unique factors affecting the presentation of environmental stories. Shanahan and McComas (1999) found that news media often present environmental stories more as lifestyle pieces (as opposed to ‘serious’ hard news) and argue that they are therefore somewhat devalued in the news. Similarly, in a study of television news, Cottle (1993) argues that the journalistic tenet of objectivity is often downplayed or abandoned altogether in environmental stories. As well as marking the issues as less serious or

important, this fulfils an ideological function. Such stories have an affective dimension, and are often more about celebrating than reporting through the affirmation of good intentions and deeds (*ibid*). Environmental news contains an “underlying moral structure” (Anderson, 1997: 126), which communicates dominant cultural assumptions about how society is organised. The use of symbols and metaphors evokes deeply held symbolic frames of reference. Environmental news items frequently tap into common cultural myths, such as the eternal struggle for survival between man and nature, or ‘David and Goliath’ stories of underdogs overcoming the odds. The inclusion of such mythic elements gives stories greater emotional resonance, as well as reinforcing these myths and the ideologies behind them (Cottle, 1993; Anderson, 1997; see also Shanahan and McComas, 1999). At the same time, these types of stories do not threaten the DSP as they are usually depoliticised and not controversial, while still being emotionally engaging (Lowe and Morrison, 1984).

As discussed above, environmental news coverage tends to support the DSP, even though many of the tenets of environmentalism run counter to this. Coverage tends to be geared towards the dominant social order, with economic interests paramount (Shanahan, 1993). In most reporting, the authority of science is upheld and uncontested, with uncertainties de-emphasised (Carvalho, 2007). Knowledge is institutionalised, and is presented as being solely the domain of scientists and official institutions (Wilkins, 1993). However, this is not the case where science threatens economic interests. In reporting of climate change, for example, scientific uncertainty was commonly used as a framing device, with controversy and disagreements accentuated (Zehr, 2000). The authority of official science was upheld, though, as uncertainties were explained by a lack of current knowledge and referred back to science for further research (*ibid*).

3.1.3: News Sources

The types of sources who appear in news stories about environmental issues also have a large impact on how the issue is constructed. As Trumbo (1996) points out, “it is in the source that the broader authority of the story resides” (270). Several studies (e.g. Trumbo, 1996; Cottle, 1993; Shanahan and McComas, 1999; Craig, 2008) have measured the most prominent types of sources used in environmental coverage. With regards to specific environmental issues such as climate change, politicians and business groups are prominent, particularly in news items which emphasise solutions to these problems.

Scientists are more associated with defining problems and identifying impacts (Trumbo, 1996). Some sources will have a greater chance of their viewpoint appearing in the media than others. Governments and large corporations have the resources to use public relations firms to ensure they are represented in the media and have the ability to set the terms of the debate.

In an analysis of New Zealand newspaper coverage of environmental issues, Craig (2008) found that over three quarters of sources cited were from political and commercial-oriented groups (including public servants and government scientists). Such groups are able to take advantage of journalistic time constraints by issuing pre-packaged information such as press releases. As journalists usually lack the time to conduct independent analyses of events, especially on complex scientific issues, these press releases are often used unedited or unquestioned (Nelkin, 1987). Again using the example of climate change, the large amount of coverage given to climate change sceptics and lack of attention paid to energy efficiency and renewable energy sources have been attributed to disinformation campaigns mounted by corporations, business interest groups, and politicians sympathetic to their cause (Dispensa and Brulle, 2003; Gelbspan, 2004; Nissani, 1999).

In his analysis of television news coverage of the environment, Cottle (1993) identified different patterns of source use than has been found in print media. There was a discernable hierarchy of source types, but these were characterised by competing interests and opinions. Sources did not “appear likely to produce a closure around a dominant viewpoint, but rather reflect the organised expressions of vying social, political, economic and cultural interests” (120). Environmental groups were better represented on television: they were the largest single source group and accounted for almost 15% of sources (*ibid*), compared to the 8% reported by Craig (2008) in print media. This is possibly a function of the greater amount of ‘soft news’ in television coverage of the environment. Cottle (1993) found that business sources were more prominent in main evening news programmes, which have a greater focus on serious or hard news rather than lifestyle or human-interest stories.

3.1.4: Environmental News and Empirical Reality

News media coverage of the environment can generally be seen as constructed according to institutional principles rather than an empirical reality. This is not to say that coverage is entirely constructed by media workers – news media obviously react to real-world events such as natural disasters. Shanahan and McComas (1999) conceptualise the key problem in environmental communication as the tension between the ‘real’ world of nature and its social construction. Real-world events make their presence felt, but these are sometimes at odds with socially constructed and accepted viewpoints of what nature is and how it fits into human society. Real-world events are taken by the media and reshaped in line with common news practices and dominant societal values. Several studies have attempted to determine the relationship between real-world factors and news coverage. In an early agenda-setting study, Funkhouser (1973) compared media coverage and issue salience amongst the public with real-world indicators. His analysis found that patterns of media coverage for environmental issues bore little relation to the actuality of the underlying issue, and that media coverage responds to things other than the actual stream of events (such as deliberately-staged ‘pseudo-events’) for issues that are not inherently newsworthy (*ibid*).

Other studies have noted that issues can interact with (possibly unrelated) real-world happenings to increase coverage and issue salience. For example, the issue of climate change first gained major media coverage in the United States during a heatwave in the summer of 1988 (McComas and Shanahan, 1999). The abnormally hot temperatures, combined with testimony by leading scientist James Hansen that they were possibly due to global warming, pushed the issue into the media spotlight. In a systematic longitudinal comparison of temperature and newspaper coverage, Shanahan and Good (2000) found a weak positive relationship between the two. They conclude that while local weather is not the most important determinant of coverage, it can provide a news hook on which to hang the issue (*ibid*). Although the reality of events can and often does impact on the news media, processes of mediation are often the most important factors in how they are ultimately presented in the news.

3.1.5: News Media and Audience Understanding

The susceptibility of environmental news to construction has implications for public understanding. If the media representations do not bear much relation to reality,

action taken by the public in response to perceived environmental threats may be ineffectual or even counterproductive. The unobtrusive nature of most environmental issues means that most people rely on the media for their understanding. News media, and television news in particular, have been found to be the public's primary source of environmental information in New Zealand (Bell, 1991), the United States (Murch, 1971; Stamm *et al.*, 2000) and Europe (*Eurobarometer*, 2007). Wilson (2000) found that news media were even the main source of information for journalists reporting on climate change, a situation which has the potential to create a dangerous feedback loop of misunderstanding.

The ways in which news media report environmental issues can affect the ways people think about them. As discussed above, agenda-setting research has found that issues which are prominent in the news media are also regarded as important by the public. Generally, studies of individual environmental issues have found a strong relationship between news coverage of those issues and individual-level knowledge and attitudes (see Holbert *et al.*, 2003 for a review). However, although this type of coverage had a strong influence on attitudes, it was found to have little if any impact on people's behaviour (McLeod *et al.*, 1987). In fact, media coverage can discourage people from acting on environmental issues and often report them in such a way so that audiences do not consider them relevant to their everyday lives. Murch (1971) found that even local media tended to report environmental issues at a national or global level – only ten percent of coverage focused on local issues which would affect the audience directly. In the same study, few participants regarded environmental pollution as being serious in their own community, while an overwhelming majority said it was a serious problem nationally (*ibid*). People are often aware of environmental issues in a general sense, but such issues are often not salient to them personally. In a study of attitudes towards global warming, less than a quarter of respondents perceived global warming as a direct personal threat (Bord *et al.*, 2000). In another study, the majority of respondents saw the effects of climate change in terms of plant and animal extinctions rather than human factors (Stamm *et al.*, 2000).

The medium from which audiences receive knowledge and information about the environment has an effect on understanding. Studies by Stamm *et al.* (2000) and Shanahan (1993) both found that people who rely mainly on television are less

knowledgeable about environmental issues than those who obtain most of their information from newspapers. People who used a greater breadth of media forms as well as interpersonal communication had a greater understanding of the issues, although all sources with the exception of television were positively related to understanding of environmental issues. Overall, there was a stronger relationship between interpersonal communication and understanding than media use and understanding (Stamm *et al.*, 2000). Shanahan (1993) found a significant, though moderate, negative correlation between television viewing and environmental concern – heavier viewers tended to be less concerned about the environment, think the future of the environment was more secure and see themselves as having less personal impact on the environment. Interestingly, heavy television viewing was associated with increased concern about other, non-environmental issues, suggesting television does not uniformly cultivate non-concern. Shanahan does not suggest that television *causes* lack of environmental concern, but is part of a systemic cycle which reinforces such attitudes (*ibid*). A European survey (*Eurobarometer*, 2007) found that heavier television users also felt less informed about environmental issues than did others, and most survey respondents did not rate television as a trustworthy source of environmental information. This is echoed in an Australian focus-group study (Bulkeley, 2000) where participants expressed deep distrust of the news media in general (this is, however, in contrast to Fortner *et al.* (2000; cited in Potter and Oster, 2008) who found that Americans are generally trusting of television).

As discussed above, many previous studies have used the information-deficit model to assess audience interpretation of environmental issues. Focus group studies (e.g. Macnachten and Jacobs, 1997; Bulkeley, 2000) have shown that lack of information is not necessarily the problem; rather, people feel a weak sense of personal agency combined with a deep suspicion of government and business environmental initiatives. Bulkeley's (2000) study shows that many people view environmental problems in a holistic manner, in terms of the overall interaction between modern society and nature rather than as individual problems such as climate change. Bulkeley (*ibid*) argues that the use of the information-deficit model in assessing audience knowledge of environmental problems may itself be ideological. Focusing on individual practices and understandings may work to shift the burden of responsibility onto individuals and away from macro-economic forces such as government or industry (*ibid*).

Studying the construction and interpretation of narratives is an alternative way of analysing the complex processes surrounding communication and understanding of the environment. Narratives “take into account the shared social realities of the storyteller and audience” (Trumbo and Shanahan, 2000: 201). Individuals do not process information in a vacuum (Good, 2000). The act of telling stories creates a shared cultural space, so rather than focusing on the individual as the only agent of environmental change, the narrative approach examines cultural change in the broadest sense, and suggests that “our cultural stories give shape to the real” (Potter and Oster, 2008: 121). As Renn *et al.* (1992; cited in Good, 2000) state, “what human beings perceive as threats to their well-being ... are less a question of predicted physical outcomes than of values, social influences, and cultural identity” (28). Public understanding of global environmental issues is “complex, fluid and contradictory” (Bulkeley, 2000: 329) and any theories of the effects of communication must be cognisant of this.

3.2: Broader Approaches to Analysing Media and Environment

Several studies of how the environment is represented in the media and how it is understood have applied a broader framework, taking into account factors other than what facts are communicated and looking beyond only news media. Bell (1991) makes the distinction between non-comprehension, when an audience member derives no meaning from a media message or does not recall it, and miscomprehension, which is the amount of inaccuracy or confusion in what audiences do remember. His study of audience understanding of climate change and ozone depletion concluded that audiences evaluate incoming information against a pre-existing ‘mental script’ for environmental issues. In Shanahan and McComas’ (1999) terms, this would be the level of the social environment, commonly-held ideological notions that are shaped and reinforced by social norms. News, of course, is not the only source of mediated information about the environment. Representations of the environment in other media genres may be as important, if not more, as those in the news. To fully grasp the media’s portrayal of the environment, it is necessary to “look at the broader ideological effects of mass media, instead of the specific informational problem that is more often presented by news coverage” (Shanahan, 1993: 183).

Ungar (2000) argues that complex technical or scientific issues, which often include environmental issues, need to be represented in popular culture as a whole in order for them to gain public acceptance. As the amount of specialised knowledge in society increases, people become experts only in their own fields. The one exception to this is popular culture, which is accessible to all and provides a non-threatening resource for conversation. Factors which allow an issue ‘breakthrough’ into popular culture are complex, and are dependent on more than the amount of news coverage – Ungar (*ibid*) contends that the ozone hole issue did achieve breakthrough while climate change, despite receiving more news coverage, did not (as of 2000). Bridging metaphors can connect issues to existing popular cultural templates, and a “whirlwind” of overlapping events is needed to catch the public’s attention and turn the issue into something people can talk about without feeling overwhelmed or stupid. To have an issue “that can be talked about, played with, and acted upon in popular culture is central to unleashing and sustaining a whirlwind” (*ibid*: 13). The emergence of an issue in popular culture often signals that it is something with which society has become concerned. Such attention in wider cultural circles outside of the news can be seen as a barometer of the extent to which an issue penetrates the deeper cultural consciousness (Shanahan and McComas, 1999). Journalistic standards of accuracy do not apply in this sphere: “What is popularly accepted as fact, in a popular culture context, *is fact*, regardless of the ‘science’ behind the issue” (Wilkins, 2000: 61; emphasis in original). Assessing media coverage of the environment, then, must take into account the wider cultural meta-narrative, and its manifestations across forms of cultural output other than news. Much effects research has indicated that “it is not the individual message so much as the accumulation of individual messages over time that has the capacity to influence thought and, sometimes, human behavior” (*ibid*: 64), and the stories told in entertainment media may be as, if not more, influential in this regard than news (*ibid*; Shanahan and McComas, 1999).

Delli Carpini and Williams (1994a) contend that making a distinction between ‘fictional’ and ‘non-fictional’ television is misguided and can downplay the impact that entertainment programming has on audiences’ attitudes and beliefs. They argue that nominally ‘non-fictional’ programmes often use “the form and substance of ‘fiction’ – staging events, using graphics and movie clips to dramatize issues, [and] employing the narrative conventions of fiction storytelling” (*ibid*: 77). At the same time, “prime-time ‘entertainment’ programming has become increasingly important as a place for

structuring public discourse” (*ibid*: 78) in that it often deals with topical issues, and communicates broader ideological values around issues such as individualism, authority, community and participation. With regards to the environment, Delli Carpini and Williams (*ibid*) found that while environmental content was often ‘liberal’ and pro-environmental at a substance level and could be critical of political institutions, “the overall impact of any critical messages are blunted at the foundations level ... which excludes any responses to environmental problems that might call into question consumer culture, the political status quo, or present economic-industrial strategies” (95).

By contrast, Holbert *et al.* (2003) argue that, while the effects of all types of television use should be studied, it is necessary to keep the distinction between genres. They found “a clear differentiation between the direct effects of factual- versus fictional-based television use on pro-environmental behaviours” (*ibid*: 191). While there may be a blurring of content and technique between television genres, audiences do make the distinction and watch different types of television depending on a range of demographic and attitudinal variables. Holbert *et al.* (*ibid*), using survey research, found that the use by audiences of television news and nature documentaries had a positive relationship with pro-environmental behaviours. This is despite the well-documented deficiencies in television’s environmental news content. They speculate that this effect “stems in some measure from an affective element of fear that we all need to do better in terms of being environmentally conscious, not a purely cognitive information-transmission effect” (*ibid*: 191). Viewing of fictional entertainment programming had no relationship with pro-environmental behaviours. Holbert *et al.* (*ibid*) attribute this to fictional television’s relative lack of attention to environmental issues, and the fact that it is usually discussed in a neutral or unconcerned manner (as reported by McComas *et al.*, 2001). It is likely, though, that fictional television does have a role to play in influencing attitudes towards the environment. Delli Carpini and Williams (1994b) found that focus group participants “make few distinctions between fictional and nonfictional television” (793) when discussing the environment. Television’s inattention to environmental attitudes can also be a significant factor in shaping commonly held conceptions of the importance of the environment in society (Shanahan and McComas, 1999).

3.2.1: Cultural Indicators Research

The most extensive research on environmental narratives non-news media, as discussed above, was conducted by Shanahan and McComas (1997; 1999; McComas *et al.*, 2001). Their research used message system analysis, part of the cultivation research tradition, whose purpose is “identifying and assessing the most recurrent and stable patterns of television content (the consistent images, portrayals, and values that cut across most types of programmes)” (Morgan and Signorielli, 1990: 19). The environmental meanings conveyed through television are often as much to do with what is not said as what is. Television programming was analysed and coded for environmental ‘episodes,’ or segments related to environmental issues. The most striking finding was their scarcity – over 80% of programmes did not contain any, and environmental topics were a primary theme of only 1.7% of shows (*ibid*). When the theme of nature did appear, it was generally separate from dominant prime-time themes such as family, law/crime, personal relationships and money/entertainment (152). Nature themes were very close, however, to themes of politics, science, religion and education. Like nature, these are treated in entertainment programmes more as sociopolitical issues, rather than aspects of ‘lifestyle’ (Shanahan and McComas, 1997). This is in contrast to the way environmental issues are portrayed in the news, where they are often treated as lifestyle or soft news (*ibid*). Shanahan and McComas (1999) hypothesise that environmental issues are therefore devalued somewhat in both news and entertainment media. Environmental content was most common in action-adventure and reality shows, which often had outdoor settings. It was much less common in drama and comedy, which tend to draw the viewer inside and focus on themes interior to the human mental experience. This is also partly a function of the fact that it is cheaper to film in studios than on location; though outdoor settings can be – and sometimes were – constructed in the studio (*ibid*). Over 95% of shows were set in urban locales, with the outdoors often constructed as ‘forbidding’ and nature as completely separated from everyday life.

When the environment or nature was mentioned it was generally in positive, or at least neutral terms (Shanahan and McComas, 1999). However, it was almost always apolitical, as was also reported by Lowe and Morrison (1984). Characters in environmental episodes, for example, would often praise the beauty of natural surroundings. While this “‘supports’ the basic idea of beauty, wilderness and nature; the ‘environment’ is constructed as being separate from the context of ‘normal’ life, which is

the city” (Shanahan and McComas, 1999: 97). The environmental logic of television has to justify the purpose of the programmes, which is mainly to sell products and promote consumerism. The world of television is a place where material goods define the environment, and programmes ask viewers to conceive their world in the same way (*ibid*). Shanahan and McComas (*ibid*) do point out that there is clearly no ‘anti-environmental’ conspiracy amongst television writers and actors, and that it is difficult gathering the many scattered and incidental references to the environment into a single interpretation. However, they contend that

viewers of television are encouraged to see the environment as (in no particular order)

- a beautiful alternative to city life
- a ‘problem’ to be solved through citizen action
- a political commitment for socially marginal types
- a source of jokes
- a source of trivia (a nostalgically fading issue that characterized a particular era)
- a test and challenge for human resourcefulness (102).

Overall, Shanahan and McComas (*ibid*) conclude that although television can draw attention to environmental issues, the overall institutional character of the medium is contrary to the goals of environmentalism. They point out that “the thoroughgoing ‘backgrounding’ of environmental issues within a somewhat artificially created environment of television’s own design means that new ideas about social relationships to the environment must be processed through the lens of the DSP” (*ibid*: 110). The stories television tells about the environment are highly congruent with the needs of the social system. It is television’s conception of the everyday that is its most powerful tool in shaping attitudes, and it is through this that it defines our perceptions of the natural world, establishing a “social reality that takes place within an environment whose very existence presupposes and supports the existence of the DSP” (*ibid*: 111).

3.3: National Perspectives on Media and the Environment

This study is concerned with the environmental content of New Zealand television. A limited amount of research has been done in this area. The only comparable study is that by Spellerberg *et al.* (2006) which examined the treatment of the environment in all New Zealand television (local and overseas-produced) over a three-month period. They classified whole programmes as to whether or not they were ‘environmental,’ defined as “those that contained elements of environmental sustainability and which had environmental sustainability outcomes” (*ibid*: 139). Such programmes accounted for just less than one percent of total broadcast time on TV One, and less than 0.2% on TV2 and TV3. A more in-depth analysis of news programmes found that environmental issues made up less than four percent of news stories, most of which were skewed towards conservation and species protection and included no discussion of sustainability (*ibid*). Spellerberg *et al.* (*ibid*) conclude that “New Zealand national television is, in terms of programmes on sustainable development, both unbalanced and biased. There is an overall lack of programmes and news items about the state of the environment and about environmental sustainability” (145). They propose adding an Environmental Stewardship code to the Broadcasting Code of Practice to encourage broadcasters to play a more proactive role in environmental responsibility (*ibid*). This study builds on the work by Spellerberg *et al.* (*ibid*) by examining New Zealand television’s environmental content in greater depth. This will be done through examining individual references to the environment within programmes, rather than their overall environmental focus, and analysing the place of the environment within New Zealand television in relation to other topics.

Most other research that has examined media portrayals of the environment in New Zealand has mainly concentrated on print media, as had been the trend internationally. In addition to the study of audience understanding described above, Bell (1991; 1994) examined news stories about climate change and ozone depletion for their scientific accuracy. His results showed that while the media was prone to occasional exaggeration, reporting was largely accurate in scientific terms. Craig (2008) found that environmental stories in New Zealand newspapers were often interpreted through an economic or business framework and stories were dominated by bureaucratic or industry sources. Similarly, Howard-Williams (in press) found that reporting of climate change

tended to support the ideological status quo. In a study of how New Zealand independent media report climate change, Kenix (2007) found that they tend to use largely the same frames and news values as mainstream media.

3.3.1: Cultural Differences in Representations of the Environment

Some studies have suggested that media portrayals of the environment can be affected by cultural factors or peculiar national characteristics. Brossard *et al.* (2001) found significant differences in the ways French and American newspapers covered the issue of climate change. American media emphasised debate and controversy to a much greater degree. Conflicts between scientists, politicians and business interests were to the fore, with news reports seeming to conflate uncertainty with disagreement. This was not the case in French media, where scientific uncertainty was reported, but science was presented as a unified body of knowledge. There was also a greater emphasis on international relations and the need to balance environmental and economic interests, in contrast to the more domestic-oriented and less event-centred coverage in the US (*ibid*). Brossard *et al.* (*ibid*) conclude that “journalistic practices embedded in a specific cultural context may affect the nature of media coverage of an environmental issue” (374). Dispensa and Brulle (2003) also compared cross-cultural coverage of climate change, looking at coverage in the USA, Finland and New Zealand. Again, they found that scientific controversy was much more prevalent in American media. They attribute this to political-economic factors, particularly the existence of a large and powerful fossil fuel industry in the USA but largely absent from the other countries, and argue that it is in the media’s best economic interests to reflect the views of a country’s dominant industries (*ibid*). However, Howard-Williams (in press) found little difference in coverage of climate change between Australian and New Zealand media, despite the two countries having different industries and governmental policies on climate change.

4: NEW ZEALAND TELEVISION: AN OVERVIEW

4.1: Television and National Identity

This study will analyse only New Zealand-produced television content. Horrocks (2004a) argues the merits of studying television from a national perspective. Similar to the construction and replication of environmental ideology discussed above, television is central to the construction and continual redefinition of ideas surrounding national identity (*ibid*). Television creates a “culture-in-common” (Bell, 2002: 21) and plays a significant role in the fabrication of our reality. The idea of national identity promoted by television assumes that although we as individuals may be culturally and racially diverse, there are threads of commonality that link us, and images supporting this notion of shared group identity are constructed and reconstructed on a daily basis (*ibid*). Bell (*ibid*) notes the irony in the fact that the image of ourselves as New Zealanders is manipulated by the media, often for their own commercial ends, but in modern society there is no other way for a national identity to be constructed except through the mass media. Horrocks (2004a) goes on to explain why New Zealand television makes a particularly good case study. The main television networks operate on a national basis – there are few regional channels and they have a very limited audience. The relatively small size and self-contained nature of the country makes it easier to see and study television as an overall system. The size of New Zealand’s media market offers opportunities to examine the distinctive forces at work within a small television system – it is not, as some have assumed, “merely a condensed or diluted version of British or American television” (*ibid*: 9). This study aims to gain an understanding of how the environment is represented in this relatively unique production and distribution context.

New Zealand’s postcolonial history means that it has struggled to create a culture that is distinctively its own. New Zealand television has one of the lowest levels of local content in the world, at 30.3% in 2006 (New Zealand on Air, 2007). This compares to around 55% in Australia (Horrocks, 2004a). The country’s unique cultural mix contributes to the distinctive flavour of the limited amount of New Zealand content that is on television, with a mixture of British, American and Australian influences, as well as Māori and Pacific cultural factors. Māori Television provides a unique cultural viewpoint not found anywhere else in the world, and aspects of this are also seen in the

mainstream channels (*ibid*). Stephens (2004) notes that because most Māori programming is created in a non-commercial environment, this has meant that “experimentation and innovation have been able to take place, with little threat to the broadcaster’s ‘bottom line’. Extended ‘talking heads’ sequences, or pithy audio/visual metaphors are examples of techniques that help to define truly Māori television” (Stephens, 2004: 110).

4.2: The New Zealand Media Sector

4.2.1: The Current New Zealand Media Landscape

It has been argued that New Zealand has the most deregulated media sector in the world (McChesney, 1999). The current make-up of the media sector was shaped largely by the wider neo-liberal economic reforms of the 1980s. Prior to 1989, TVNZ was the sole television broadcaster and operated with more of a public service ethos. Horrocks (2002) points out, though, that even before the reforms television in New Zealand never fulfilled the Reithian ideal of a true public service provider. He argues that New Zealand television has always been somewhat commercial and populist, although still fully state-controlled (*ibid*). The commercialising of TVNZ and opening up of the broadcasting sector to private competition only intensified this, and there was a major reorientation of broadcasting practice and significant changes in the content and style of television programming. Each channel was given a distinct brand, focusing on a specific segment of the audience, although all channels converged somewhat with a similar mainstream commercial style and ambience (Horrocks, 2004b). All restrictions on advertising levels, sponsorship deals, or foreign- and cross-ownership were removed.

New Zealand television is run almost entirely along commercial lines. TV One and TV2 are operated by Television New Zealand (TVNZ). TVNZ was, from the time of deregulation up until 2003, a wholly public-owned State Owned Enterprise. This meant that it was expected to make a profit and return a dividend to the government. In 2001, TVNZ was reclassified as a Crown Entity Company, meaning that it still had to return a dividend to the government, but was also obliged to implement a new public service charter. The TVNZ Charter, adopted in 2004, “emphasises TVNZ's public broadcasting responsibilities and is particularly designed to foster a sense of national culture and identity” (TVNZ, 2008) and aims to promote a greater amount of New Zealand content. However, the charter has been criticised as unworkable, and the amount of local content

on TVNZ in fact decreased between 2003 and 2006 (New Zealand On Air, 2007). TV3 is part of MediaWorks, which is fully owned by Australian private equity company Ironbridge Capital. MediaWorks also owns music channel C4 as well as a large network of radio stations across the country. The other nationwide free-to-air commercial broadcaster is PrimeTV, which is owned by Pay Television operator SkyTV (the largest shareholder of which is News Corporation). Māori TV began broadcasting in 2004, and is the only channel which could be considered a public broadcaster. Although it does carry some advertisements, it is not expected to make a profit and receives most of its funding for programming from Te Māngai Pāho, the Māori Broadcasting Funding Agency. The stated aim of the channel is to “make a significant contribution to the revitalisation of tikanga Māori and reo Māori” and should be a “high quality, cost effective television provider which informs, educates and entertains” (Māori Television, 2006).

4.2.2: Local Content in a Commercial Environment

There is a complex relationship between the commercial orientation of New Zealand television and local content. Despite an increase in commercial pressures, the amount of New Zealand-produced programming on television increased dramatically after the broadcasting reforms, rising dramatically between 1988 and 1994 (Lealand, 2002). Local production is, however, at a disadvantage, as the costs of producing a show (particularly narrative fiction) in New Zealand are prohibitive compared to importing shows from overseas. To address this imbalance, New Zealand on Air (NZOA) was established in 1989 to provide funding for New Zealand content in which broadcasters would be otherwise reluctant to invest. This increase in funding for local production and associated greater accountability for public money was the main driver for the rise in New Zealand content on television (Horrocks, 2002). Broadcasters are generally content to fund news and current affairs as loss-leaders, programming which attracts audiences to their channel and can be used to promote their commitment to New Zealand. Reality and game shows are inexpensive and often pay for themselves through sponsorship (*ibid*). NZOA funds other genres which are not financially competitive, and places a special emphasis on New Zealand identity and culture. As NZOA is the only source of public money for broadcasting, Perry (2004) argues that it has “effectively redefined public service television as a synonym for, and as the promotion of (a widely defined notion of) local content” (78).

However, even publicly-funded programming must compete in a commercial marketplace and fit in with the commercial ethos of the channels. Even if a programme is offered to the broadcaster for free, it can be more financially advantageous for them to buy an overseas-produced show which would be more suitable to advertisers (Horrocks, 2004b). Lealand (2002) argues that this lack of commitment to public broadcasting means that television does not cater to a range of audiences, and choice and diversity are severely limited. ‘Quality’ and specialist programming, even if funded, is not found in prime time and there is a swift death for any show that does not quickly attract a healthy audience. The result of this is programming which tends to stick to the ‘tried and true,’ and local variations of imported formats (*ibid*). Local content exists, then, in a complex field of forces, having to satisfy both the commercial needs of the broadcaster and the social and cultural requirements of NZOA (Horrocks, 2002).

The liberalisation of the broadcasting sector and associated changes in programming inevitably had ideological implications. As the main imperative of broadcasters turned to making a profit, viewers came to be conceived of as consumers rather than citizens (Horrocks, 2004b). Drawing on Gramsci’s hegemony theories, Horrocks (*ibid*) explains how these changes could work to promote a neoliberal ideology. The large increases in advertising and sponsorship promoted not only specific products but the general values of consumerism and capitalism, even moving beyond the ad breaks and into programmes themselves. The result is that values such as individualism, competitiveness, commercialism and consumerism become dominant. Other values and tenets which do not fit with the neoliberal worldview are suppressed, including community access, minority interests and intellectual analysis. Giving news and documentaries a more populist focus, for example, was justified as simply making them more accessible and lively. Cumulatively, though, this had “ideological effects by promoting an individualist view of society and making it difficult to ask certain kinds of complex or unconventional questions” (*ibid*: 195). Consumerism is equated with an ideal way of life for New Zealanders (Bell, 2002), and commercial considerations “became the new ‘commonsense’ of programming and all other aspect of television” (Horrocks, 2004b: 195). As discussed above, the set of values being promoted by commercial television is often at odds with environmental protection.

5: METHODOLOGY

5.1: Introduction

This study will take the form of an empirical analysis of environmental content in New Zealand-produced television programmes. The study will focus on all television programme content (excluding advertisements), rather than just news, in order to gain an understanding of the nature of environmental messages in broadcast culture as a whole. This is to investigate any commonalities between representations of the environment that are built up in all cultural output from which audiences gain knowledge and which may influence their attitudes and actions towards environmental issues.

The study will examine only New Zealand-produced content. It will investigate whether there are any consistencies as to how the environment is represented on New Zealand television, and any similarities or differences to overseas findings reported in the literature. New Zealand television makes an interesting case study for a number of reasons. New Zealand has a small media market, with different dynamics at play than in larger ones such as the United States. There are a variety of ownership structures – the study will compare a public broadcaster (Māori Television), publicly-owned but commercially-run broadcasters (TV One and TV2) and a private broadcaster (TV3). Although the media sector is highly deregulated, much local content is supported by government funding, meaning that it may not be subject to marketplace pressures to the same degree as overseas programming. All of these things could potentially have a bearing on the ideological representations of the environment.

Unlike much cultural indicators research, this study will analyse programming from the entire schedule, rather than only prime time. The aim of the study is to investigate how New Zealand-produced content represents the environment. Much of this, particularly NZOA-funded programming which may not have otherwise been produced in a purely commercial environment, airs outside of peak viewing hours.

5.1.1: Definitions

New Zealand content here is defined as programmes produced in New Zealand or by New Zealand companies, aimed primarily at a New Zealand audience. Some

programmes are produced in New Zealand but have foreign content edited in – news especially but also music videos, children’s shows with local presenters but foreign cartoons, and some sports events. This study will exclude from analysis any discrete portion of a programme that is produced overseas, such as news reports or music videos. It will include overseas content that has been repurposed for the New Zealand programme and changed from its original form, for example an overseas news report with local voiceover and intercut with locally-filmed footage.

For the purposes of this study, environmental content can be defined as that which involves natural processes and systems, or human actions which consciously or deliberately affect them (so recycling would be environmental as it is a conscious decision to help protect the environment, but air travel would not be unless brought up in the context of carbon emissions).

5.2: Sampling

New Zealand-produced content will be recorded from four national free-to-air channels: TV One, TV2, TV3 and Māori TV. The first three of these are the top three nationwide channels in terms of viewing numbers. Māori TV has a smaller audience but was included in the study because of its contrasting cultural outlook and public service ethos. The two other nationwide channels, C4 and Prime, were not included because of their relatively small amount of New Zealand-produced content and lower viewership.

Content will be recorded from specified times over a four-week period, amounting to one week’s worth of local content from each channel. Each day will be divided into three slots – 6am-11:59am, 12pm-5:59pm, and 6pm-11:59pm (there is very little first-run New Zealand content screened in the 12am-5:59am slot and viewer numbers are very low). This gives a total of 84 slots, with 21 randomly assigned to each channel, one of each time period from each day to each channel (i.e. one constructed week over a month). All New-Zealand produced programmes which begin in the selected slot will be examined.

One complication is that Māori TV broadcasts only between 3pm and 11:30pm. However, almost all of its programmes are New Zealand-produced. For this channel the

entire day's programming will be examined, for one constructed week over the four-week sampling period.

Sampling a constructed week over a month is a similar method to that used by Shanahan and McComas (1999), although their study only examined prime-time content. Constructed week sampling is used in most cultural indicators research (Krippendorff, 2004). Riffe *et al.* (1996a) note, with particular reference to news, that this sampling method can account for cyclical variations in content (e.g. the fact that there is usually less political news on weekends). However, Riffe *et al.* (1996b) found greater monthly variation in TV news topics than for days of the week. This study is concerned with all television content, the majority of which is more stable than the daily fluctuations of news. In addition, the background attention to the environment with which this study is concerned will likely be less susceptible to short-term variations. While there is often variation in programming between days of the week, particularly in prime time and on weekends, programmes themselves tend to stay relatively stable over longer periods.

5.3: Coding and Analysis

Following Shanahan and McComas (1997; 1999), much of this analysis will be broadly empirical in nature though informed from a critical ideological position. That is, it will take the context of environmental content into consideration and attempt to use empirical data to draw inferences about dissemination of ideology and power relations in society as conveyed through the media. The first stage is a quantitative content analysis of the sample of New Zealand-produced television content, which will identify instances of environmental content as well as information about each programme as a whole. A qualitative analysis of the environmental content identified will then add depth and context to the analysis. Deacon *et al.* (1999) note that “when quantitative and qualitative approaches are used methodologically in combination with each other, the resulting analysis is invariably stronger” (134).

5.3.1: Content Analysis

Each programme will be analysed and coded for a number of themes, taken from the Cultural Indicators framework (see Shanahan, 1996; Morgan and Signorielli, 1990). Other information about the programme as a whole will be coded, including genre,

setting, location and whether it was funded by government agencies. Within each programme, ‘episodes’ or segments related to the environment or environmental issues will be identified. This is similar to the study by Shanahan and McComas (1999), who defined environmental episodes as “any discrete portion of the program involving spoken words and physical action in which environmental issues were specifically implicated or discussed ... any episode with a meaningful environmental position in the narrative of the program” (85). Episodes do not include environmental ‘images’ and background scenery that make no specific reference to the environment. These episodes will be coded for a number of factors, including the length of the episode, the level of concern towards the environment, the demographics of the people or characters involved, the setting, which specific environmental issues were mentioned and the episode’s relationship to other themes. To test for reliability, a 5% subsample was recoded several months after the original coding. Using Krippendorff’s alpha (Krippendorff, 2003), this produced intracoder reliability scores of 0.90 for themes, setting and location (ordinal data) and 0.85 for episodes (nominal data).

An empirical content analysis such as this is the best option for a sample of this type. Content analysis can provide a broad overview of trends and tendencies in the data, which is necessary given size of the sample and the relative infrequency of environmental content within it. Reducing textual data into numerical categories inevitably results in the loss of some contextual information and can “obscure the meaning and import of individual narratives” (Shanahan and McComas, 1999: 80). However, it allows characteristics of programmes to be identified and methodically compared across categories, ensuring “a reasonable degree of reliability in the establishment of a pattern of media representation” (Deacon *et al.*, 1999: 133). Such an approach can thus give insights into how environmental narratives operate at a system-wide level. This will provide a valuable picture, for instance, of where nature and the environment are commonly situated in the various programme genres or in relation to other themes.

5.3.2: Narrative Analysis

The environmental episodes identified will also be analysed in relation to their place in the overall narrative or structure of the programme. Qualitative narrative analysis will provide an added layer of depth to the content analysis outlined above. Such analysis has the ability to give a sense of how the episodes fit into the particular programmes’

narrative, and “places the episodes in a context that viewers would actually use to understand them” (Shanahan and McComas, 1999: 97). This can help show on a more contextual level how the environment and related topics are portrayed in relation to the rest of the programme. Analysis will take into account factors such as how important the episodes are, whether they are treated seriously or derisively, what meanings are associated with them and so on. This analysis can also shed greater light on the relationship between the environment and the DSP, such as the extent to which the environment is appropriated for consumerist ends, or is used to advance an alternate paradigm or ideology.

Such a qualitative approach has drawbacks in that it is subject to personal interpretation – the possibility exists that another analyst armed with the same data could draw different conclusions. What a narrative analysis might lose in replicability or generalisability, however, it makes up for in interpretive power (Deacon *et al.*, 1999). In combination with the content analysis outlined above, this approach will give a clearer picture of the broad-scale treatment of the environment in New Zealand television.

6: CONTENT ANALYSIS

A total of 173 programmes were recorded and coded. These had a combined length of just under 140 hours, although overseas-produced parts of programmes were not coded. Advertisements were also not coded. News and current affairs shows made up the bulk of the sample, accounting for 96 of the 173 programmes (55.5%). Magazine/lifestyle shows were the third biggest genre category, at almost 20% of the programmes in the sample. Narrative fictional programmes made up only 8.1% of the sample, a total of 14 shows (table 6.1). This was not unexpected, as high production costs compared with the cost of importing overseas shows means the majority of local content tends to be news or reality and lifestyle programming, which is significantly cheaper to produce. Two programmes coded as children's shows were in the form of narratives.

Table 6.1: Breakdown of programmes by genre

Genre	Number	Percent
News	51	29.5
Current Affairs	45	26.0
Magazine/Lifestyle	34	19.7
Reality/Game Show	11	6.4
Children's	15	8.7
Narrative/Fictional	14	8.1
Movie	1	0.6
Sport	2	1.2
Total	173	100

Due to differences in style and content, programmes coded as News or Current Affairs (referred to as 'news programmes') will be analysed separately from all other genres ('non-news programmes'). Note: time format unless specified is hour:min:sec.

6.1: Non-news Programmes

A total of 77 non-news programmes were coded.

Figure 6.1: Primary setting for non-news programmes

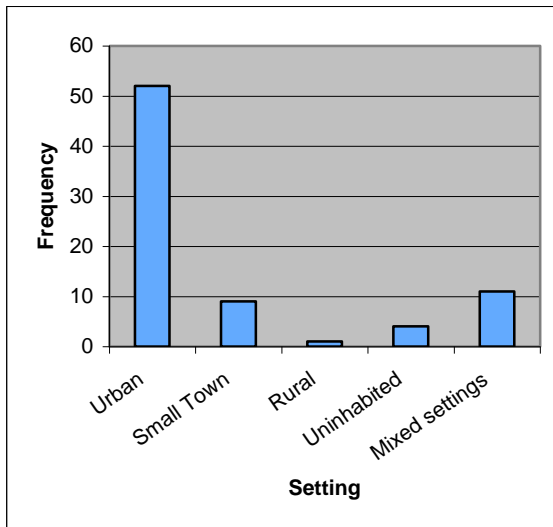


Figure 6.2: Primary location for non-news programmes

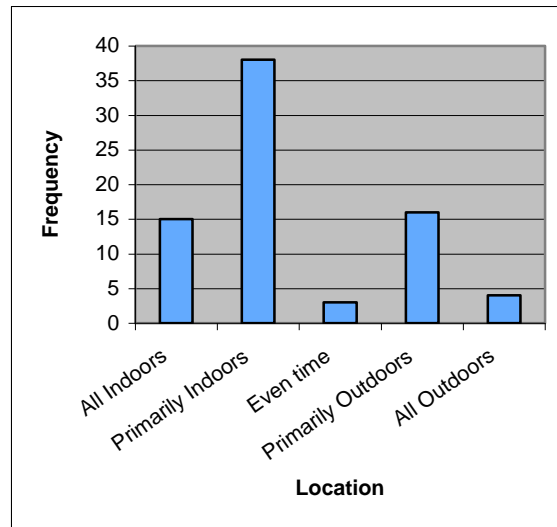


Table 6.2: Primary setting for non-news programmes compared to 2006 census data

Setting	Non-news programmes	2006 Census
Urban	67.5%	71.8%
Small Town	11.7%	14.2%
Rural	1.3%	14.0%
Uninhabited	5.2%	-
Mixed/Multiple settings	11.7%	-

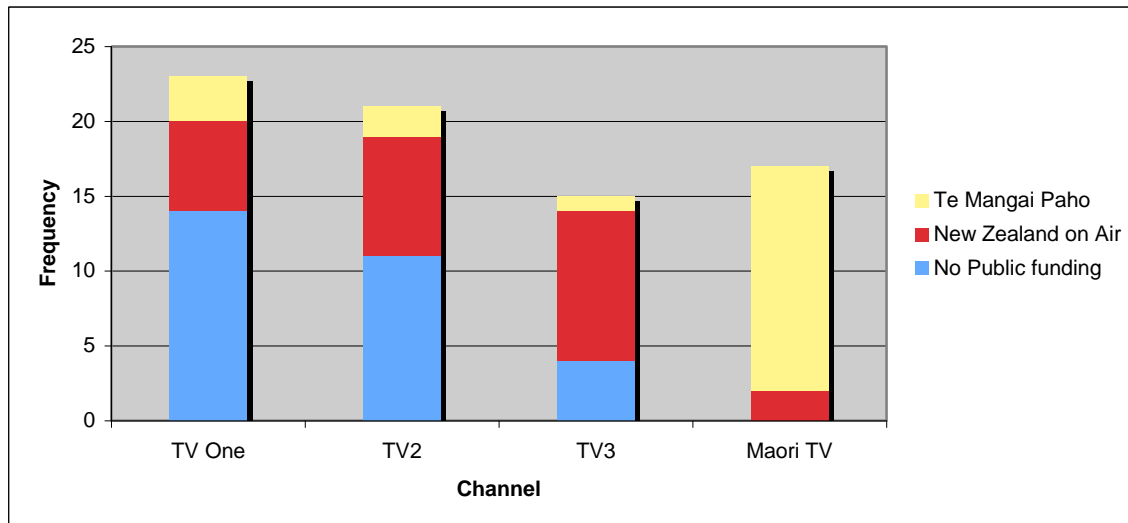
6.1.1: Setting and Location

As expected, the primary setting for programmes was predominantly urban, with 67.5% of programmes coded as such (figure 6.1). Interestingly, these numbers are not dissimilar to population data from the 2006 census (Statistics New Zealand, 2008a). Rural settings are, however, heavily under-represented, with only 1.3% of programmes taking place in rural areas compared to 14% of the population who live there (table 6.2). Some of the programmes coded as ‘Mixed/Multiple settings’ do have significant portions of the programme which take place in rural areas. Narrative location returned similar statistics, with 68.9% of programmes taking place entirely or primarily indoors (figure 6.2). These are similar figures to those obtained by Shanahan and McComas (1999), and supports their finding that television concentrated overwhelmingly on human-created, urban environments and indoor locations. There are no major variations between genres,

though it is perhaps worth noting that all 14 Narrative-Fictional programmes take place either primarily or entirely indoors.

6.1.2: Funding

Figure 6.3: Source of funding for non-news programmes by channel



Of the 77 non-news programmes coded, 48 of these (62%) received some form of public funding. Twenty-six programmes were funded by New Zealand on Air (NZOA), while 21 were funded by Māori Broadcasting Funding Agency Te Māngai Pāho (TMP) (figure 6.3). There was also one programme, a film, which had been funded by the New Zealand Film Commission and screened on Māori TV. Fifteen of the 21 TMP-funded shows screened on Māori TV. In line with its primary function as a public broadcaster, all non-news programmes on Māori TV received public funding of some sort.

6.1.3: Episodes

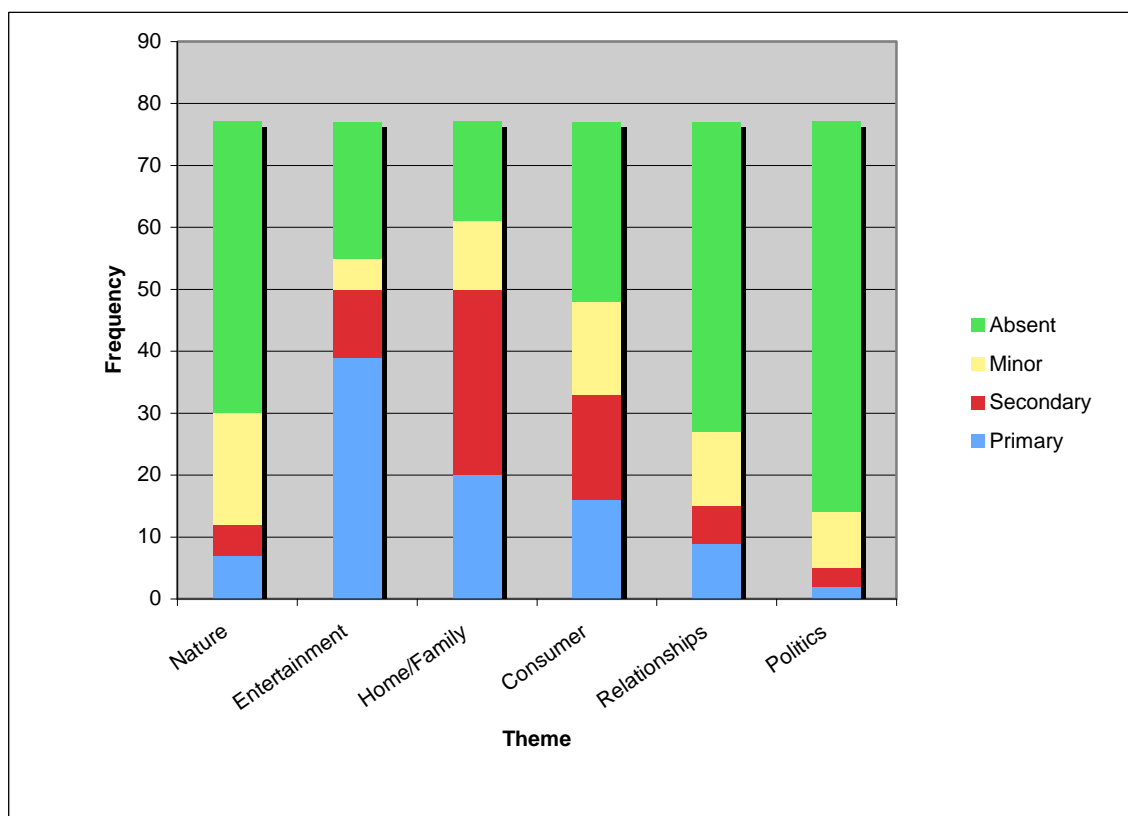
Twenty-one out of 77 non-news programmes, or 27%, have at least one environmental episode. There are a total of 37 environmental episodes across the 77 programmes, with a total length of 1:13:15. Environmental episodes are discussed in more detail below.

6.1.4: Themes

Programmes were coded for sixteen themes, used in the standard cultural indicators framework (see Shanahan, 1996; Shanahan and McComas, 1999). Themes were coded as to whether they were absent, minor, secondary or primary. The theme of

most interest here is that of Nature. As per Shanahan and McComas (1999), programmes were coded as having Nature as a theme only if natural or environmental issues were a narrative part of the programme. This included narratively important natural settings (for example, TV3's *The Fishing Show*, which was filmed almost entirely on a boat in the ocean) but not simple scenic backgrounds which had no narrative impact on the programme. The most prominent themes in non-news programmes were Media/Entertainment, Home/Family and Consumer Issues (figure 6.4). Prominence is determined by finding the mean of the scale values for the themes across all programmes, where 0 = theme is absent, 1 = minor, 2 = secondary and 3 = primary. Politics and Business had low prominence in non-news programmes, though this, as expected, was reversed in analysis of news and current affairs programming.

Figure 6.4: Frequency of appearance of selected themes in non-news programmes



The theme of Nature came around the middle of the field, with a similar degree of prominence to the themes of Personal Relationships, Health and Education. Nature was completely absent as a theme from 47 of the 77 of programmes (over 60%), and was a primary theme in just seven (less than 10%). By contrast, Home/Family was a primary theme in 26% of programmes, while Media/Entertainment was primary in 51% of non-

news programmes. The figures for Nature as a theme are still higher than those found by Shanahan and McComas (1999), who reported Nature as being completely absent from almost 80% of programming and a major theme in only 1.7%.

The theme of Nature did not use exactly the same coding criteria as was used for identifying environmental episodes. There was, as expected, a strong relationship between the two (Spearman correlation: $r=0.65$, $p<0.01$) with 18 of the 21 programmes with at least one environmental episode also having Nature as a theme.

Spearman correlations were used to examine the relationships between themes. These measure the strength of association between two variables. The theme of Nature was not correlated with many other themes in non-news programmes. There was a moderate positive correlation with Science ($r=0.26$, $p<0.05$) and a moderate negative correlation with Personal Relationships/Sex ($r=-0.26$, $p<0.05$).

There is no significant relationship between public funding and either the presence of nature as a theme or the presence of environmental episodes. There is also no significant relationship between any of the channels and the presence of nature as a theme, though there is a relationship between channel and the presence of environmental episodes (Kruskal-Wallis test, $\chi^2=8.52$, $p<0.05$). The Kruskal-Wallis test compares the scores for one variable, in this case the number of environmental episodes, between three or more groups, in this case the four channels). TV One and Māori TV have a greater number of environmental episodes than expected, while TV2 has much fewer (only one episode out of 21 programmes).

There was a significant relationship between programme genre and the theme of Nature (Kruskal-Wallis test, $\chi^2=20.26$, $p<0.01$). Magazine/Lifestyle programmes featured Nature more often than do others, while in Narrative-Fictional programmes Nature is proportionally less common.

6.2: News Programmes

A total of 992 news and current affairs stories were coded. Because of the difficulty in applying judgements about themes or setting to entire news or current affairs

programmes, categories were coded for each individual story. Stories were not coded if they obviously came from a foreign news provider, or were not accompanied by images (i.e. they consisted only of the anchor speaking to camera).

6.2.1: Setting and Location

Figure 6.5: Primary setting for news stories

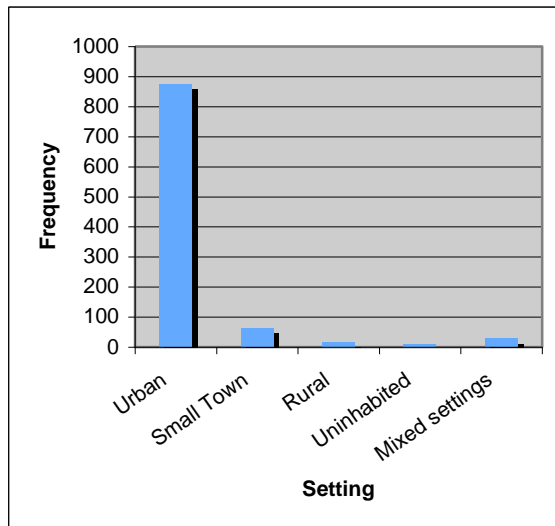
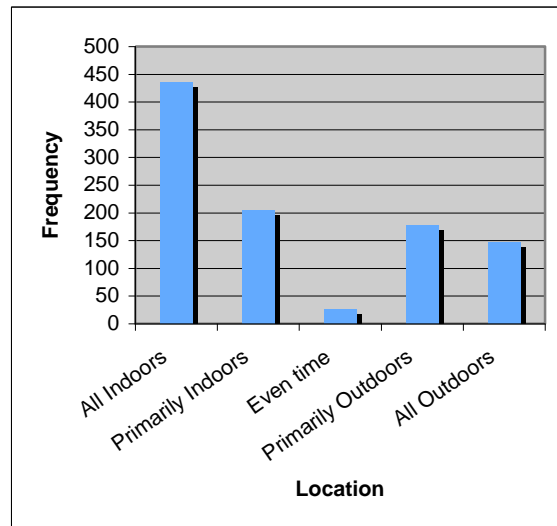


Figure 6.6: Primary location for news stories



There is a much greater bias towards urban settings in news stories than there is in non-news programmes. Eighty-eight percent of items took place in urban locations, with less than 3% in rural or uninhabited areas (figure 6.5). Both environmental episodes and the theme of Nature become more prevalent the further removed from urban locations the story is (Kruskal-Wallis tests – episodes: $\chi^2=60.6$, $p<0.001$; Nature: $\chi^2=21.1$, $p<0.01$). Nature is at least a minor theme in 17.2% of stories in urban settings, compared with 35.3% of rural stories and 66.7% of stories set in uninhabited areas.

In terms of narrative location, however, the trend does not hold, with almost one third of stories taking place entirely or primarily outdoors (figure 6.6). Many of these are sports stories, which feature outdoor locations more often than other story types. When sports stories are removed from the analysis, the percentage of stories taking place primarily or entirely outdoors drops to 25%. Little can be inferred from this finding in terms of news programmes' attitude towards the environment. Many news items use outdoor locations for establishing shots or for when indoor filming is impractical or prohibited (e.g. for some court stories). There are no significant relationships between the narrative location and the presence of environmental episodes or Nature as a theme.

6.2.2: Episodes

A total of 86 environmental episodes were coded from the 96 news and current affairs programmes, with a total combined time of 1:51:52. Forty-one of the programmes, or 43%, have at least one episode. Out of a total of 992 individual news stories coded, 69 (7.5%) include one or more environmental episodes. In their analysis of US news programmes, Shanahan and McComas (1999) found that on average 20% of news programmes have an environmental story or issue in them, though this fluctuated significantly from year to year. Cottle (1993), analysing British news programmes, coded 4.3% of news stories as being 'environmental' (though he coded for entire stories, rather than episodes within stories).

All but two of these episodes appeared in the main news section of the programme. None of the 193 sports stories in the sample had any environmental episodes. Routine weather forecasts were not coded as environmental episodes. There were no unexpected trends in the number of episodes per channel, with no significant differences between channels. TV2 only had one codable programme here, current affairs show 20/20, which itself only had one New Zealand-produced story.

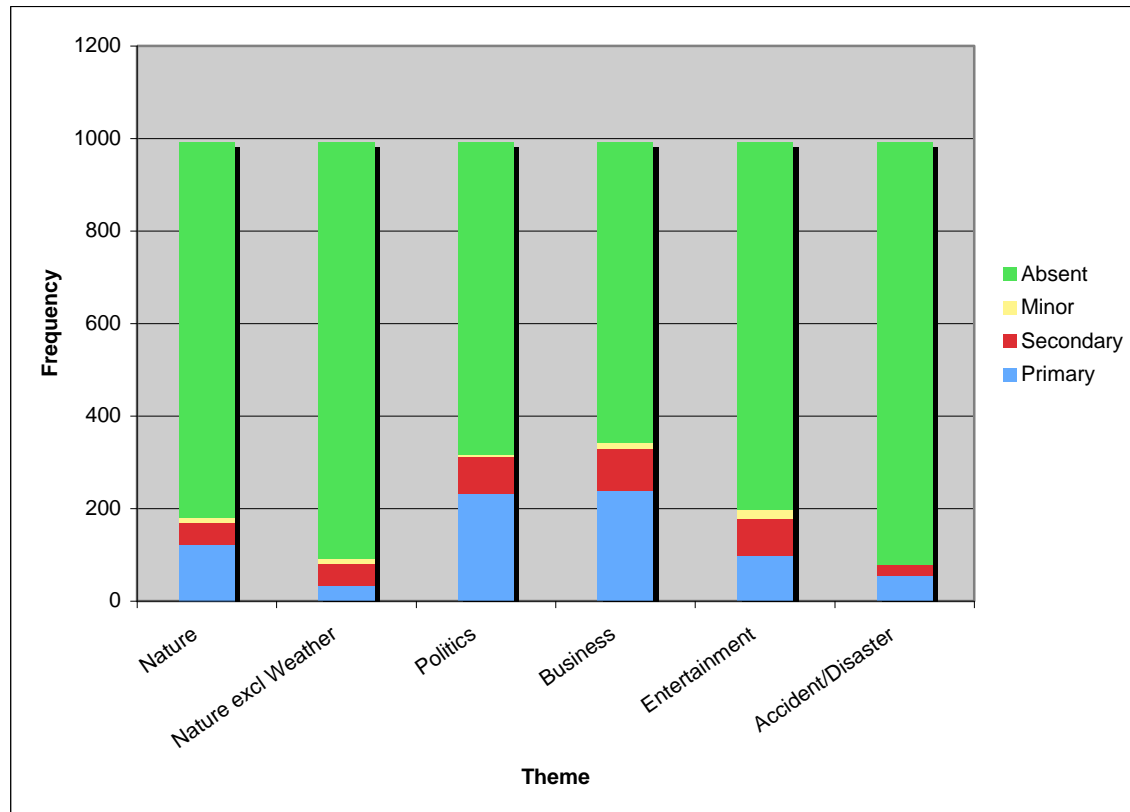
6.2.3: Themes

News and current affairs programmes were coded for the same sixteen themes as above, as well as four additional themes of Courts, Human Interest, Accident/Disaster and Sport. These were determined from a pilot study and reflect common story themes which do not fit comfortably into the standard cultural indicators framework (which was designed primarily for coding fictional and entertainment programming rather than news).

The most prominent themes in news and current affairs programming are Business, Politics and Sport (figure 6.7). The theme of nature is the sixth most prominent, coming in behind Financial Success/Money and Media/Entertainment. Weather segments were coded with Nature as a primary theme. With one or more weather segments per news programme, this boosted the theme's prominence. When weather segments are removed from the analysis, the theme's prominence ranking drops from sixth to eleventh. Overall, 33 news or current affairs stories (excluding weather segments) had Nature as a

primary theme (3%), 48 secondary and 10 minor. Politics and Business are the primary theme in 23% and 24% of stories respectively.

Figure 6.7: Frequency of appearance of selected themes in news stories



Nature is not strongly correlated with any other theme except Accident/Disaster ($r=0.37$, $p<0.01$). This is not a surprising finding, as many Accident/Disaster stories revolve around weather events or people lost in the wilderness. There are significant, though very weak, positive correlations between Nature and Science ($r=0.07$, $p<0.05$), Home/Family ($r=0.07$, $p<0.05$), Politics ($r=0.09$, $p<0.01$) and Courts ($r=0.11$, $p<0.01$), and a negative correlation between Nature and Sport ($r=0.09$, $p<0.01$). The significance of these correlations is probably due more to the large sample size ($n=904$) than an underlying pattern of coverage. These correlations exclude weather segments.

As expected, there is a strong relationship between nature as a theme and the presence of environmental episodes in a story ($r=0.59$, $p<0.01$).

6.3: Environmental Episodes

6.3.1: Frequency and Length

A total of 123 environmental episodes were coded from the 173 programmes. They have a total combined length of 3:05:07, or 2.3% of the total length of coded programmes (though, as noted before, advertisements and overseas-produced segments of programmes are not included in the analysis).

The average episode length was just over 90 seconds. Lengths are extremely variable, however – values range from two seconds to seven minutes, and the standard deviation is greater than the mean at 99 seconds. The median episode length is 45 seconds. Episode lengths vary according to genre (table 6.3).

Proportionally, magazine/lifestyle programmes are over-represented in the amount of time spent on environmental episodes. They account for 36.2% of the total time spent on environmental episodes, compared with 22.1% of the total sample. The differences in episode lengths between genres is significant (Kruskal-Wallis test, $\chi^2=10.09$, $p<0.05$). Magazine/lifestyle programmes also have the longest episodes on average, a reflection of the greater amount of time they are able to spend on a particular topic (as opposed to news).

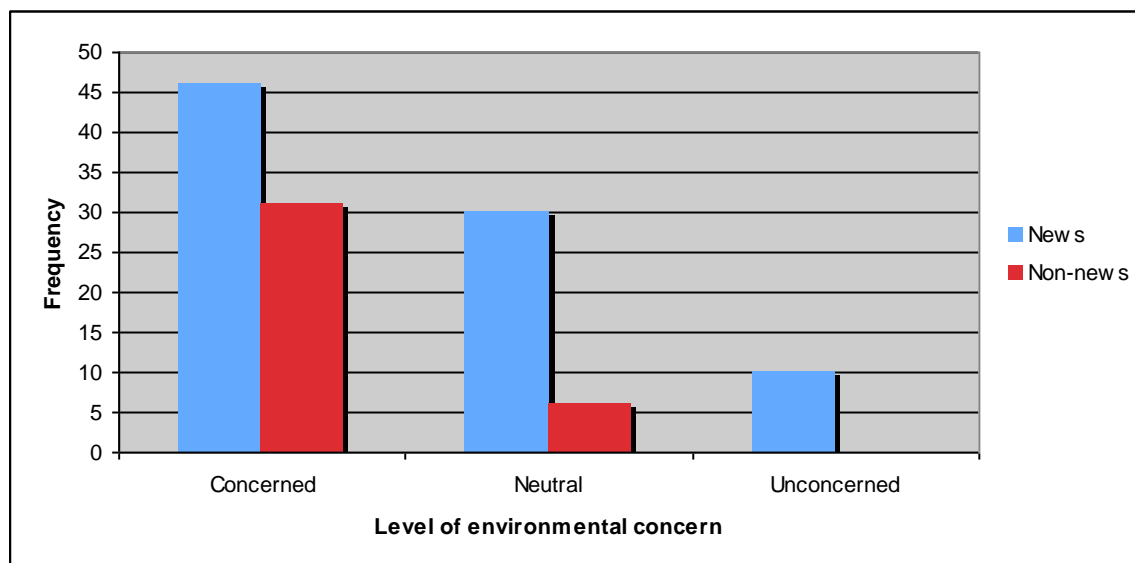
Table 6.3: Frequencies and lengths of environmental episodes

Genre	Number of Episodes	Mean length (min:sec)
News	37	1:07
Current Affairs	49	1:25
Magazine/Lifestyle	28	2:20
Reality/Game Show	5	0:20
Children's	4	1:33
Narrative/Fictional	0	-
Movie	0	-
Sport	0	-
Total	123	1:30

6.3.2: Level of Environmental Concern

The level of environmental concern in each episode was coded as concerned, neutral or unconcerned. Of the 123 episodes, 62.6% were coded as concerned; that is, they expressed a generally positive outlook towards environmental protection (figure 6.8). A further 29.3% were neutral towards the environment, while 8.1% were unconcerned. There was a difference in the level of environmental concern between episodes in news and non-news programmes. There were no unconcerned episodes coded in non-news programmes, and fewer neutral episodes. This difference in environmental concern between episodes in news and non-news programmes is significant in a chi-square test ($\chi^2=11.18$, $p<0.005$). The chi-square test for independence is used to explore the relationship between two categorical variables. Episodes on Māori TV had a higher level of concern. Again, there were no unconcerned episodes coded on Māori TV and proportionally fewer neutral episodes. The difference between channels is significant (chi-square, $\chi^2=7.53$, $p<0.05$).

Figure 6.8: Level of concern of environmental episodes in news and non-news programmes



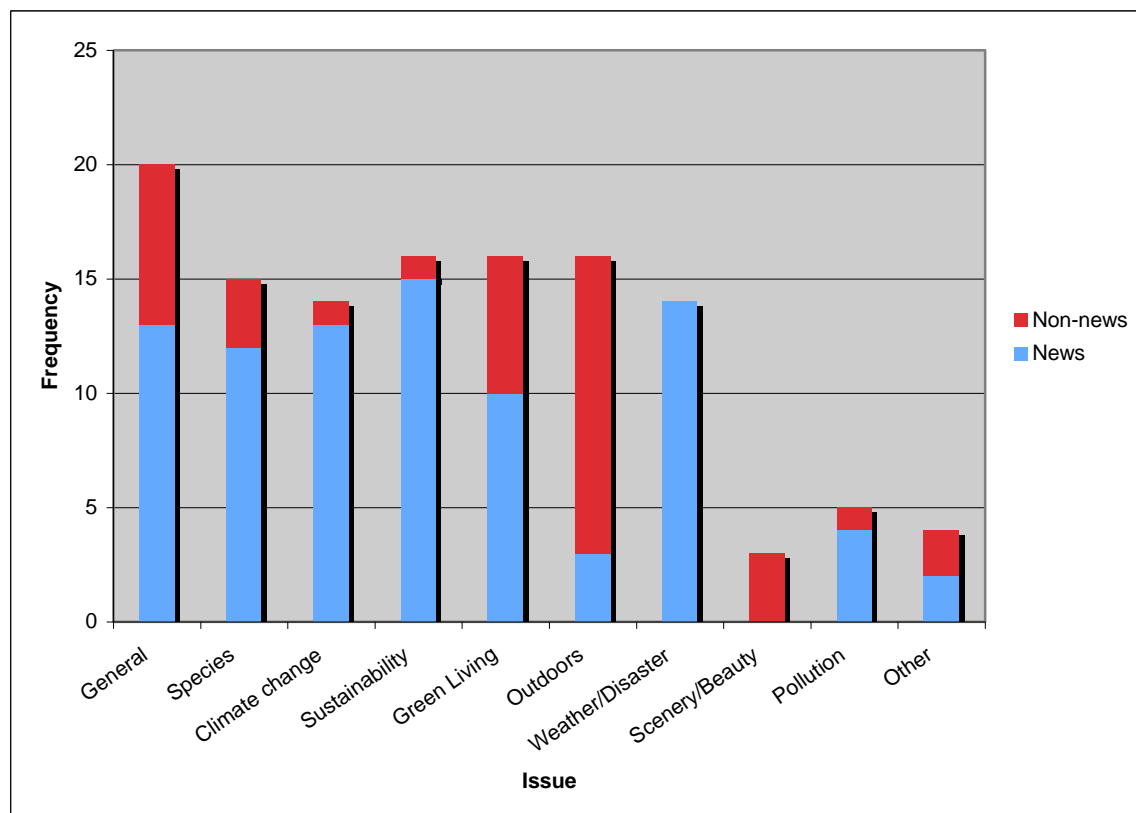
6.3.3: Issue and Domain

Episodes were coded according to the major environmental issue they presented. These categories were determined from the data. The categories used by other researchers (e.g. Shanahan and McComas, 1999; Cottle, 1993) do not reflect the types of issues prevalent on New Zealand television. The most common issue, accounting for 16.3% of episodes, is General Nature/Environment, usually relating to broad generalised statements

about the need to protect the environment (figure 6.9). The next most common issues are Sustainability, Green Living and Consumption, and Outdoor Activities, each with about 13%. Issues which were prominent in the early 1990s – toxic waste, nuclear, rainforests, air and water pollution (Shanahan and McComas, 1999) – are less so now. This could be a reflection of changing environmental priorities, though these changes could also be influenced by the smaller number of fictional programmes and higher number of news programmes in this sample.

There are differences in the types of issues presented in news programmes as compared to non-news. News programmes have most of the mentions of Climate Change (15 of 16 episodes), Sustainable Development (13 of 14) and Weather/Natural Disaster (14 of 14). Outdoor Activities are more prevalent in non-news programmes (13 of 16 episodes).

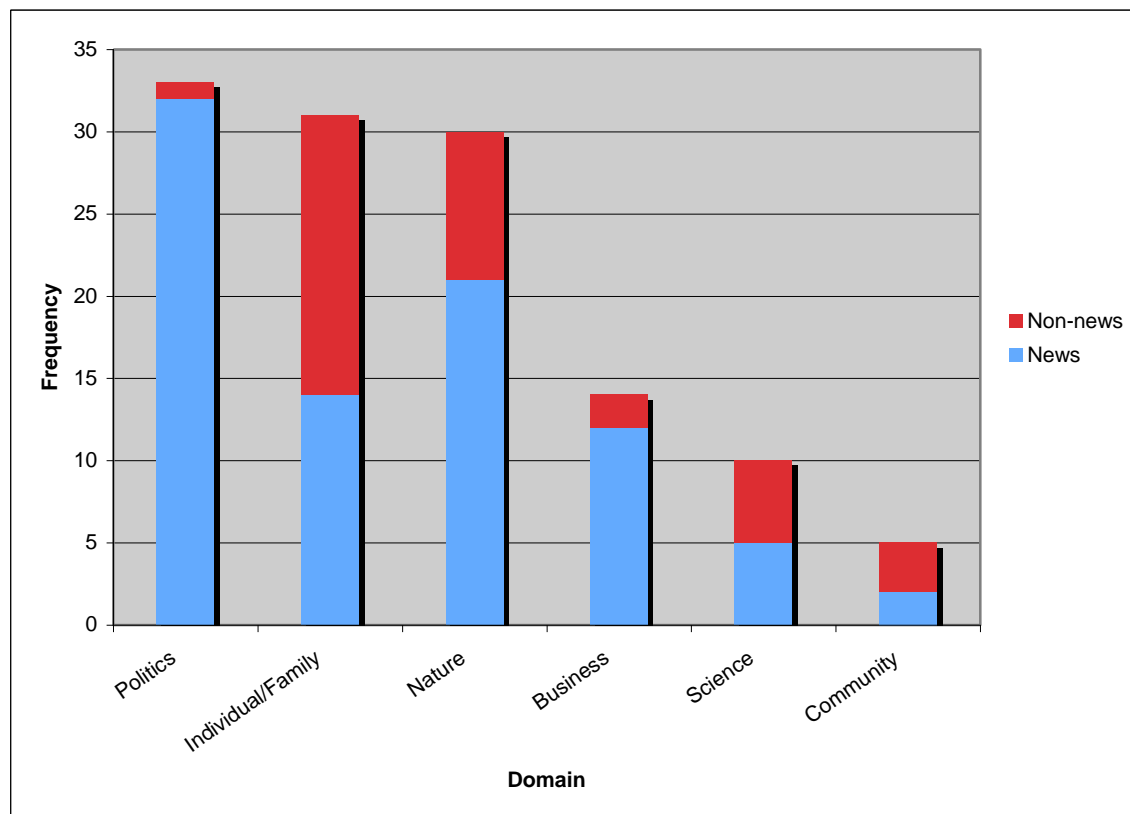
Figure 6.9: Frequencies of issue foci in environmental episodes



Episodes were also coded for the domain in which the environment was situated. This takes into account the context in which the episode appears, and who has responsibility and legitimacy for dealing with environmental issues. The domains of

Politics, Individual/Family and Nature were the most common, each accounting for around 25% of episodes (figure 6.10). The remainder were split between the domains of Business, Science and Community/Collective. Once again, there is a difference between news and non-news programming. Episodes in news programmes, as would be expected, are more commonly situated in the domains of Politics and Business. Episodes in non-news programmes are much more likely to be in the domain of Individual/Family.

Figure 6.10: Frequencies of domains in environmental episodes



There are some interesting relationships between episodes' issue and domain. The numbers are generally too small to have any statistical value so are purely descriptive. In the domain of Politics, the issues of General Nature/Environment and Sustainable Development are proportionally over-represented. Interestingly, there are no episodes relating to Climate Change in the domain of Nature, though the issue is over-represented in the domain of Science. In the Individual/Family domain, issues of Green Living and Outdoor Activities were common but were less so in the domain of Politics. The issue of Pollution was proportionally over-represented in the Business domain.

6.3.4: Characters

The one major character from each episode was identified and coded for several demographic attributes. Males outnumbered females by a margin of exactly two to one. This is a similar ratio to that found in other studies assessing gender portrayals in television as a whole (e.g. Lauzen and Dozier, 2004; Glascock, 2001). White/Pakeha characters make up 73.2% of the sample, with Māori or Pacific people making up 22.0% (table 6.4). These numbers are strikingly similar to 2006 census data on ethnicity, in which 69.7% of respondents identified themselves as European and 21.5% as Māori or Pacific Islander (respondents were able to select more than one ethnicity, so there will be overlap between these categories) (Statistics New Zealand, 2008b). However, most of the Māori/Pacific characters were in programmes on Māori TV. On the three commercial channels, 87% of characters in environmental episodes were white/pakeha, and only 7% Māori/Pacific. In terms of the environmental issue focus of episodes, Māori were proportionally over-represented in the categories of General Nature/Environment and Outdoor Activities. Asians were under-represented, with only two characters (1.6%) compared to over 9% of the New Zealand population. However, the small numbers involved mean that no firm conclusions can be drawn from this.

Table 6.4: Ethnicity of characters in environmental episodes, compared to 2006 census data

	Commercial channels (n=100)	Māori TV (n=23)	Combined Total (n=123)	2006 Census¹
White/Pakeha	87.0%	13.0%	73.2%	69.7%
Māori or Pacific	7.0%	87.0%	22.0%	21.5%
Asian	2.0%	0.0%	1.6%	9.2%
Unknown/Other	4.0%	0.0%	3.3%	12.1%

¹Numbers add to more than 100% as more than one ethnicity could be selected.

Almost half (47.2%) of characters in environmental episodes work in entertainment or media sectors. These were mainly journalists, news anchors, or presenters. Contrary to the findings by Shanahan and McComas (1999), businesspeople were not well represented, accounting for only nine of the 123 characters (7.3%). People in the science, academic or education fields made up 8.9%, while politicians and government workers total 18.7%. Occupations were generally split proportionally

between news and non-news programmes, with the exception that politicians and government workers were under-represented in non-news programmes, with only one character in 37 episodes.

Other character findings were largely expected: 80% of characters were either young adult or middle aged, almost 90% were New Zealanders, and the majority (over 60%) were of a middle-class socio-economic status.

7: NARRATIVE ANALYSIS

7.1: Traditional Knowledge on Television

7.1.1: Māori TV

Quantitative results show some differences between Māori TV and the other three channels. Episodes on Māori TV had a higher level of environmental concern. They also had proportionally more episodes on the issues of General Nature/Environment and Outdoor Activities, and less on Climate Change, Sustainable Development and Green Living. More episodes were in the domains of Individual/Family and Community than the other channels (though numbers were too small to perform statistical tests). This points to Māori TV presenting a view of the environment centred more around interaction with the natural world and less on topical environmental issues. A qualitative analysis bears this out to some degree.

Environmental episodes on Māori TV in general had a more holistic or long-term view of the relationship between humans and the environment. This was often explored through the concept of *kaitiakitanga*. *Kaitiakitanga* is the Māori notion of stewardship or guardianship, especially in relation to natural and physical resources. It encompasses the idea that humans have a responsibility to protect the environment and ensure that natural resources are there for future generations. This notion was even brought up in some news current affairs shows, which generally focus only on topical issues and events. A political commentator on current affairs show *Kowhiri 2008* noted that the Green party emphasise the role of *kaitiakitanga* which could attract Māori voters, but noted that many Māori who have financial interests in commercially exploiting natural resources may diverge with the Greens' philosophy of protection. An item on current affairs show *Native Affairs*, about Māori on Stewart Island, also explored this relationship. A Māori person who lived on Stewart Island talked about how business on the island had traditionally been whaling, sealing, fishing and milling – exploitation of the environment. Now, though, islanders see their new role as *kaitiaki* (guardians). As he explained, “our desire is to care for these *taonga* [treasures] that were handed down to us.”

Feature/magazine show *Toitu te Whenua* (described as a “series on Māori who are creating strategies to use, reconnect with and unlock the potential of their land without

compromising its cultural and spiritual significance” (Māori TV, 2009)) focused on an organic farm. The owners had chosen a method of farming that maintained the concept of caring for the land and looking after its ability to provide sustenance. A farm supporter and trustee observed that the ultimate purpose of the farm is to feed the soil: “when we march off here, and if we have left that soil in much better condition, *kaitiakitanga* has been achieved for us as *tangata whenua*. That’s *kaitiakitanga* for us – feeding the soil for the next generation.” The programme ended with an elder from the local tribe providing an in-depth explanation of *kaitiakitanga* and how it must be integrated into our everyday actions – “we don’t just tread aimlessly.”

These examples not only provide a unique Māori cultural perspective, they also incorporate it into modern ideas of sustainability and environmental protection. Traditional Māori values were sometimes linked to modern environmental issues. One of the owners of the organic farm on *Toitu te Whenua* believed that “a lot of the cancers and diseases in the world [are] because of what we’ve ingested into our bodies.” These farmers use “the gardening methods of their ancestors,” such as only using natural products as fertiliser rather than synthetic chemicals, in order to protect the future of their grandchildren.

Episodes on Māori TV in general had a more holistic approach to the environment, linking natural processes to everyday life to a greater extent than their counterparts on the commercial channels. For example, shows with cooking segments also

included scenes where the particular creature that was being eaten was caught in its natural habitat. Cooking show *Kai Time on the Road* featured host



Figure 7.1: *Kai Time on the Road* host Peter Peeti discussing eels with a tribal elder.

Peter Peeti talking to a tribal elder about different species of eel, their habitat and how best to catch them (figure 7.1). He later cooked them using an outdoor kitchen on the shores of the lake, commenting on the beautiful surroundings. Similarly, outdoors show *Tangaroa with Pio* had scenes of catching koura (freshwater crayfish) using traditional methods and discussion of the need to manage the resource on a sustainable basis. Again, this episode featured traditional knowledge being used for modern purposes. In this case,

scientists were utilising a traditional Māori method for catching koura using fern fronds and were investigating its potential for commercial use.

7.1.2: Commercial Channels

Similar programmes on the commercial channels did not generally take this holistic approach to the environment or incorporate ‘traditional’ knowledge. This is in line with the observations of McKibben (1992) that television disconnects us from the natural world and fails to provide important information, once commonplace, about our impact on the environment. Several other programmes in the sample had cooking segments, but none of them could be coded as environmental episodes, as environmental factors were simply not a consideration. The same was true of outdoors shows. For example, TV3’s angling programme *The Fishing Show* focused solely on the fun and sport of fishing. The programme gave no attention to, say, the habitats of the fish or the potential impact of the activity. The one environmental episode in the programme came near the end, when the host was giving a summary and rating of the various political parties’ policies on recreational fishing. The right of anglers to be able to fish was of paramount importance in the show’s judgements. While recognising the need to protect fish stocks and “manage our precious fisheries resource”, the programme was mildly critical of parties who wanted to set up more marine reserves. The Green Party was singled out for particular criticism for placing too much emphasis on conservation, with the host saying that they “failed to recognise that recreational anglers have a vested interest in protecting our marine resources.”

The one programme on commercial television that did include a broader approach to the environment was the TV One show *Off the Radar*. The series follows the attempts of comedian Te Radar to live self-sufficiently and sustainably off a patch of land, and “do all those things our forebears could do.” This instalment of the show found him installing solar panels on his caravan, hunting and preparing a goat, and cooking a meal from that and other produce he had grown. Wider issues were addressed, if briefly. At the end of the programme he narrates, “how did we get to a point in our society where children have no concept of where it is that their food comes from? ... Food has become so easy to get, just by going to supermarkets, that you forget how much it actually takes to put all that food together.” The programme was not as direct as the Māori TV shows discussed above in linking environmentally-responsible behaviour to positive outcomes for individuals

and society. The focus was also primarily on the individual, and what one person could do to live more sustainably (it should be noted that, as a whole, programmes on Māori TV did not consider these factors; the programmes on Māori TV that did mention the environment tended to do so in a more holistic manner than those on the other channels).

Toward the end of the show, the host has solar panels installed on his caravan, giving him a supply of electricity (figure 7.2). He immediately and enthusiastically plugs in his cell-phone and laptop computer.



Figure 7.2: Caravan with solar panels in *Off the Radar*

On one level, this can be seen as promoting the necessity of consumer goods, suggesting you cannot enjoy life without them. At the same time, however, the show is one of the few examples in commercial television non-news programmes where environmental awareness and responsibility are at least partly integrated into everyday life. On the whole, “television’s narratives treat environmental issues separately from everyday issues” (McComas *et al.*, 2001: 539). There is nothing necessarily anti-environmental about using a phone or computer, and for most people these are normal activities. Putting them into an environmental context, even if briefly, helps to show that ‘the environment’ is not just a pristine wilderness disconnected from modern urban living. Of course, this is somewhat undermined by the show’s premise that living sustainably involves living in a rural area and growing or hunting all of your own food. However, most of the show’s ideas for sustainable lifestyle changes are, for the most part, applicable to urban living (with the possible exception of goat hunting).

7.2: The Environment and Consumerism

As commercial television is an advertising-supported medium, it is to be expected that some references to the environment will be framed through the lens of consumerism. TV One’s weekday mid-morning magazine/lifestyle programme *Good Morning* featured two lengthy segments (six minutes each) on environmental products, one on eco-friendly clothing (figure 7.3) and the other on organic garden pest control. The eco-clothing expert railed against the harms of conventional cotton production, talking about how toxic

pesticides render the land barren and how toxins can be absorbed through the skin. She then presented a range of clothing made from ethically- and sustainably-grown organic cotton and wool, which are “good quality, they last, they’re sustainable, they’re good on your skin and great for the environment.” The pest control segment stressed the importance on using methods that do not have an adverse



Figure 7.3: Discussing eco-friendly clothing on *Good Morning*

impact on people and animals. The presenter then talked about a range of pre-packaged consumer products. He did bring up a few DIY methods – sprinkling ash around lettuces to keep slugs and snails away – but these were not demonstrated. Both segments do promote care for the environment, particularly the eco-clothing segment, which encouraged viewers to think of the production process behind consumer items and the harm that can be caused. Both, however, were also oriented firmly towards the purchase of consumer goods. This fits with the overall ethos of the show. Other segments like the ones described above promote a range of other products, and live four-minute “advertorials” are built into the show in place of some commercial breaks.

The natural environment itself is sometimes commoditised. TV3’s golfing show *The ING Golf Club* had a feature on a Jack Nicklaus-designed golf course near Taupo. The presenter gave what amounted to a sales pitch for the course, which included the statement, “the Jack Nicklaus golf course design philosophy is to enhance the natural environment, allowing the surroundings of the location to shape each hole.” No further mention was made of exactly *how* the course enhances the natural environment. Golf courses in general have been heavily criticised for their negative impact on the natural environment, which can include destruction of ecosystems, excessive water use, and water and soil pollution through pesticide and fertiliser application (Sánchez-Medina *et al.*, 2008; Lowy, 2004). It could well be that this particular course is designed in an environmentally responsible way, but this is not discussed and nor is it important to the programme. The environmental ‘enhancement’ is another of the course’s list of selling points, with the environment positioned primarily as a space for recreation. Environmental protection, especially when divorced from a political or business context, is almost always portrayed in positive terms. Golfing is linked to the positive values of

environmentalism and achieves a higher status because of this association. This is part of the growing discourse of ‘green’ marketing and public relations which seeks to reposition environmentally-harmful commodities as ‘earth-friendly’ in order to legitimise their consumption in the face of environmental concerns (Goldman and Papson, 1996; Shanahan, 1993).

A more overt example of attaching commercial values to nature comes in TV One game show *Wheel of Fortune*. One of the featured prizes up for grabs is a camping package, which allows you to “escape outdoors” with “all the comforts of home you’ll need for a fantastic holiday.” This episode (which appeared in three of the five *Wheel of Fortune* shows in the sample) furthers the idea of nature as something distinct and separate from everyday life, that is in opposition to urban society and needs to be brought under control – you can “escape” but still have the “comforts of home.” This is also typical of one type of environmental presentation found by Shanahan and McComas (1999): “while it ‘supports’ the basic idea of beauty, wilderness, and nature; the ‘environment’ is also constructed as being separate from the context of ‘normal’ life, which is the city” (97).

7.3: Children and the Environment

Another point of comparison between Māori TV and the commercial channels is the role of children towards the environment. Children on Māori TV, for the most part, played a more active role in the environment than on the other channels. Though no children’s shows were coded from Māori TV (they were all in Māori with no subtitles),



Figure 7.4: Children showing off koura they had gathered on *Tangaroa with Pio*

children had a presence in several other programmes with environmental content. Reality renovation show *Marae DIY* had two interludes involving children from the marae gathering food from the wild. In one, the presenter accompanied children collecting huhu grubs from the nearby forest, and in the other they were fishing for eels in the creek (though as a joke the eel they pulled up was already dead and had been cleaned and gutted). In *Tangaroa with Pio* children were diving in the lake for shellfish and koura,

and were knowledgeable about how to prepare and eat them (figure 7.4). Family advice show *Tamaiti* featured one family who went for regular walks after dinner so that “the kids can go outside and explore.”

On the commercial channels, children were most often brought up in abstract terms. The *Good Morning* segment on eco-friendly clothing stressed the importance of pesticide-free fabric for babies and children as they absorb chemicals more easily. On the same programme, actor Steven Berkoff talked of how children are susceptible to inspirational teaching and should be told to protect the Earth. The idea of looking after the planet for the benefit of our children was brought up several times, especially in a political context. For example, Green Party co-leader Jeanette Fitzsimons said in a debate that “our bottom lines are our children and the planet.”

TV One’s current affairs show *Close Up* did have one story on a high school that requires all of its pupils to spend 18 weeks at an outdoor camp, doing outdoor activities and learning in the natural environment. Though the emphasis was firmly on personal development rather than environmental protection, it was one of the few episodes on commercial television to show young people playing an active role in the environment. A similar example is from *Let’s Get Inventin’*, a show featuring child inventors which screened on Saturday morning on TV2. In this show, a young girl had invented a miniature submarine with a camera, which could locate fish underwater. The episode culminated in a boat trip onto the Hauraki Gulf, testing whether this machine could help catch a fish. Again, though, there was no mention of conservation or sustainability.

The *Let’s Get Inventin’* example is one of four environmental episodes coded from children’s shows. The other three were all from TV3’s after-school programme *Sticky TV*. The show asked viewers to send in camping tips “for when you go into the bush with the whanau.” After a joke by one presenter that a good tip was to not go camping because of the “cold and spiders,” there was general agreement that camping was “awesome.” The environmental message was somewhat undermined by the fact that the prize for sending in the best tip was a plastic toy, in line with promotion of consumer products central to the business model of commercial television. Two other episodes came from a segment about preparing to go on holiday. Viewers were encouraged to turn off appliances before they left to “save energy and the environment.” As for what to take,

the advice was, “not your laptop! ... Why do you want to be looking at a computer screen when you could be looking at the beautiful scenery?” These are pro-environmental episodes, and were coded as such. Put in the context of the programme as a whole, however, it is questionable whether they would have much impact. There were far more segments of the show which focused on consumerism. Additionally, the environment was most often presented as something separate from normal life – it is not a place for laptops. This is not to say that a more pro-environmental show would encourage children to take household appliances into the wilderness. However, when the environment is brought up in these shows it is almost always in the context of being separate from everyday life. All three of these episodes also only involve the presenters talking to the camera rather than interactive segments involving children that take up much of the show. The environment is not presented in active terms; it is talked about rather than experienced.

7.4: The Environment in News and Current Affairs

7.4.1: Informal References on Breakfast TV

Aside from the ‘official’ treatment of environmental issues in news and current affairs stories, it is interesting to examine the more informal references to the topic. These can be in the form of jokes or asides, banter between presenters, unscripted comments during interviews, or feedback from viewers. Most such references appear in the early morning current affairs shows, *Breakfast* on TV One and *Sunrise* on TV3. These shows tend to present a more relaxed and informal atmosphere than primetime news programmes. Presenters generally sit on couches instead of behind a news desk and often give their own opinions on stories. References to the environment in this setting can be seen to be freed from the conventions associated with news stories, such as objectivity and balance. As Cottle (1993) notes, “their style of delivery and mode of appeal [is] differentiated from other news programmes. Delivered in the familiar, at times chatty, idiom of common sense reasoning and feelings, environmental items can often eschew those professional claims to objectivity and impartiality, deliberately appealing to emotive responses and adopting a position of moral partisanship” (129).

Presenters frequently gave their opinion on environmental stories, which could be both pro- and anti-environment. On *Sunrise*, presenters Carly Flynn and Oliver Driver

engaged in banter about a news story on improving Auckland's rail system. While both approved of the idea of better public transport, Driver admitted, "I don't take the train, I drive, because – you know." Opinions offered by co-host Flynn were more positive towards the environment. Later in the same show, after story about Starbucks' policy of leaving a constantly running tap in all of its outlets (which wastes 23 million litres of water a day), she remarked, "what a surprise: an evil conglomerate." An interview with an artist and activist who was raising awareness of the global water crisis prompted her to exclaim, "we don't need water to be a commodity. Far out!"

TV One's *Breakfast* included more informal references to the environment. Host Paul Henry, a self-identified "right-winger," frequently made jokes at the expense of environmentalists, and the Green Party in particular. This became a running joke on one show. After a business commentator remarked that "as long as we have weather and human nature, we will have ups and downs," Henry responded, "according to the Greens we might not always have weather so we may as well enjoy it while we've got it." Later in the show, the presenters were discussing being able to buy Hum-Vees in New Zealand. Henry commented, "if they were a bit cheaper I'd buy one for Jeanette Fitzsimons for Christmas." Again in the same show, Henry was looking for a copy of a newspaper. Co-host Pippa Wetzell said that she had thrown hers out, before correcting herself: "No, I recycled it." Upon finding that newsreader Peter Williams had a copy, Henry joked, "Peter still has his. He keeps it to burn on the fire because he hates Jeanette Fitzsimons so much." Environmentalists are positioned here not only as the butt of jokes, but also as humourless and controlling. They want to stop you from indulging your desires through consumerism and subject you to petty rules about what you can and cannot do with your newspapers. This links to where the environment, and the Green Party in particular, are located on the broader political landscape (as discussed below).

Shanahan and McComas (1999) note that environmentalism is seen as more of a "woman's issue" (95). In last example above, and in several others, it is the male presenter who expresses an 'anti-environmental' opinion while the female presenter counters with a moderating viewpoint. In another episode, Henry commented on a news story about the effects of climate change on biodiversity, which mentioned the massive decline in frog species. "Frogs are a bellwether for the environment, apparently. They're very vulnerable, so the slightest change..." He motioned 'dead,' and concluded, as if not

to appear too ecologically concerned, “it’s fascinating, that’s all.” Later, he read a viewer’s email that said, “If frogs are environmental bellwethers then surely dying is their job,” to which he replied, “right again. Very good point.” Wetzell, looking concerned, responded uncertainly, “maybe it’s our job to keep them alive.” TV3’s *Sunrise* did not display this pattern, though it had fewer environmental episodes and they did tend to involve the female presenter displaying more environmental concern. Over the entire sample, as reported above, males outnumber females by a two to one ratio and there is no statistical difference in the episode’s level of environmental concern whether the character is male or female. Overall, there was no clear or consistent relationship between gender and the environment.

For the most part, examples such as the above fit into the expected roles of the presenters in the programme format. It is Henry’s job to make light-hearted ‘controversial’ comments to lend the show an air of informality, provoke viewer feedback and build a relationship with the audience. Regular viewers of the show are aware of his opinions and engage in dialogue around them. One email encouraged Henry to move to Great Barrier Island: “think of all the carbon credits you could use up each day in the Lear Jet.” Wetzell rarely offered such opinions of her own, usually providing a more moderate balancing viewpoint after Henry has made some ‘outrageous’ aside. The environmental examples above sat alongside a range of other social and political issues where the same pattern is played out. This provides clues as to where environmental issues are situated in cultural consciousness. Henry, as noted above, leans toward the right of the political spectrum. He frequently railed against excessive ‘political correctness’ and the ‘nanny state’ intruding into our lives (issues which were prominent in the election campaign happening at the time the sample was taken). The environment forms a part of this collection of issues.

The environmental episodes on breakfast television were relatively infrequent, and in discussing them in such depth there is a risk of attaching more significance to them than is warranted by their (lack of) prominence. In most cases they were likely just throwaway comments that were given little thought by the presenters in question. The aim here is not to suggest any sort of hidden agenda when it comes to the environment, but to identify instances that could contribute to or reinforce common cultural perceptions of the environment.

7.4.2: Incidental Mentions in News Reports

Formal news or current affairs reports that contain environmental episodes were, for the most part, focused specifically on environmental issues. That is, there were few stories about non-environmental topics that mentioned the environment. This points to the environment been positioned as a separate entity, not directly related to other facets of society. This was suggested by the quantitative data, with the theme of Nature not being strongly correlated with any other theme apart from Accident/Disaster. There were a small number of stories that did mention the environment in passing. In a *3 News* item about a promotional flight by a new Qantas plane, the reporter mentioned the aircraft's fuel efficiency but then stated that "Qantas weren't too worried about their carbon footprint today." The airline's spokesperson responded, "we're operating 170 flights a week across the Tasman so one more is not a huge change." A long-distance skateboarder on *Campbell Live* mentioned that his mode of travel was "environmentally friendly" but this was not referenced again. A political story about the government's response to the financial crisis had an excerpt from a speech by Finance Minister Michael Cullen saying, "the agenda for the next decade will be driven by the concepts of sustainability and productivity." There were frequent examples of stories where it would have been relatively simple to insert a reference to the environment. Stories on the electrification of Auckland's passenger rail network, political parties' transport policies, a major new coal discovery on the West Coast, an oil find near Gisborne, and multiple stories about petrol price rises and falls all failed to consider environmental issues.

7.4.3: 'Principled Nutters': Representation of the Green Party

As discussed earlier, environmental issues are often not in themselves newsworthy – they attain this status by virtue of being attached to other events or actors (Wilkins, 1993; see also section 3.1.2 above). Politics is one means by which environmental issues become visible in the news. This sample was taken during a general election campaign, where the environment was an election issue, so politics may be over-represented as a framing device for the environment in this sample.

Environmental issues in political news often involved the Green Party. This is largely because their platform is based around environmental protection and sustainability to a much greater extent than any other party. The Greens are a minor party in New Zealand's parliament, holding 6 out of 121 seats at the time of the sample, which

they increased to 9 out of 122 after the election, winning 6.72% of the national vote. Of the 32 news and current affairs stories with environmental episodes in the domain of Politics, 17 involved the Green Party (there were three additional references to the Greens in environmental episodes, in the *Breakfast* banter described above. There were also other news stories in the sample involving the Green Party which were not coded as environmental episodes as they were to do with political affairs only and did not refer to the environment). Although the environment is becoming more of a mainstream political issue (as discussed in section 7.4.4 below), the Greens remain the designated representatives for environmental causes in the political domain. It is worth examining, then, the ways in which the news media discursively construct the party, its policies and candidates. Paul Henry's jokes about Jeanette Fitzsimons discussed above position the Greens as an object of ridicule. Further examples illustrate other ways in which the Greens are represented in the context of environmental issues.

After Greens' co-leader Russel Norman was interviewed on *Breakfast* (figure 7.5), host Paul Henry commented that the Greens "are the only principled people in parliament ... [but are] just nutters" (prompting a reaction from Wetzell: "no, they're not nutters ... we are still on air"). He later read out extracts from viewer



Figure 7.5: Paul Henry interviews Green Party co-leader Russel Norman on *Breakfast*

emails: "The Greens have so much concern for the planet but are always off it"; "Paul, you're right: the Greens are very principled and a bunch of nutters." Another letter thought Norman made some valid points and the interview was biased, to which Henry responded that he thought Norman "did really well" and Wetzell said she had "a lot of respect for Russel." Although at times disputed, the consistent idea associated with the party was of 'principled nutters.' This type of labelling is not unusual for the show – one email described National as "the liars" and Labour as "the P.C. brigade" and Henry aimed as much, if not more, of his light-hearted invective at Labour as the Greens.

A short news item on *3 News* about the Greens' transport policy launch referred to it as "the Green dream." This phrase takes away credibility from the proposal, suggesting it is not in the realm of possibility. The item came at the end of the programme's political coverage and did not include interviews with anyone, for or against the proposals. Cottle

(1993) terms this a “restricted” format because “it permits little or no accessing of outside voices, with the telling of the story entirely dependent upon the news presenter’s account” (*ibid*: 121).

Another *3 News* story about the possibility of a Greens-Labour coalition was introduced by the anchor as National Party leader John Key “raising the spectre of a Green-eyed Labour monster on the loose.” In it, Key said that the Greens “have an environmental focus over and above everything else” and that Labour and the Greens would form a “very, very low-growth government” which would “come at the cost of jobs, of growth, of standard of living.” Reporter Duncan Garner summed up Key’s position as “vote for these two [Clark and Fitzsimons] and your job isn’t safe.” Though there were clips of Helen Clark and Russel Norman refuting Key’s statements, the story did not present any arguments challenging the assertion that what is good for the environment is bad for the economy. In fact, the story hardly mentioned environmental issues, with most attention given to political manoeuvring. Of the four and a half minutes devoted to the story only a small portion was coded as an environmental episode. The story was framed around the potential negative impact that the Green Party being in government would have on the economy.

These examples work to paint the Greens as principled, but disconnected with the reality of political and economic issues; well intentioned but misguided. They are nutters, dreamers, bad for the economy, but good in small doses to keep the others honest (a sentiment summed up by Paul Henry when he asked Russel Norman, “What do you say to people – and there’d be a lot of people like this I’m sure – who say ‘a little bit of green is nice, and I like that the Greens are there, but please God I wouldn’t want them to run the country?’”). This ties into the wider cultural representation of the environment as something separate from everyday life, which takes a backseat to other, more important issues. In ideological terms, the Greens’ policies do not fit with the Dominant Social Paradigm. Consequently, they are often constructed as a group whose ideas are at odds with how society should work, and who are therefore not to be taken seriously on important political matters. Shanahan and McComas (1999) contend that it is almost inevitable the environmentalists “come to seem ridiculous [on television]: they can be portrayed as people who don’t understand the groundrules of modern living” (111). This study does not directly compare the Greens’ treatment with that of other political parties

so it is difficult to make comparisons. As a minor party their policies will never be given the same degree of prominence or credibility in the news media as the major parties. What makes the treatment of the Green Party interesting is how this coverage relates to more general representations of the environment in the media.

7.4.4: Political Debates

As a political issue, the environment is not solely the domain of the Green Party. In news reporting, most environmental episodes relating to politics involved the Greens. The sample of programmes also included two election debates, one between the leaders of the two major parties and one featuring six minor party leaders. Both of these significantly featured the environment as an issue. The *One News YouTube Leaders' Debate* included video clips of viewers asking questions of the leaders. Two of these related to the environment, resulting in a total of eight and a half minutes spent discussing the environment in a 90-minute debate. The first question was anti-environmental: a viewer asked that National Party leader John Key repeal the Emissions Trading Scheme because "it is not clear that climate change is happening." It is perhaps concerning that this question was included given the weight of scientific evidence behind climate change and the news media's move towards generally accurate reporting of this in recent years. It is possible that the producers intended this as a 'trap' for Key, after previous National Party leaders' non-committal stances on the reality of climate change. However, Key answered that climate change is real, but argued that New Zealand should not be a world leader on the issue because it would cost the country jobs and incur huge financial costs: "let's have economic growth, let's do our bit for the planet as well." Labour Party leader Helen Clark (unsurprisingly) disagreed, saying that there were huge opportunities for New Zealand in being more sustainable and that it was necessary to ensure the country's economic future: "if we're seen as dirty, we're finished."

Debates such as this are among the rare opportunities politicians have to exert some measure of control over their media presence. They are able to give lengthy answers to often fairly general questions, which are not taken out of context or reinterpreted by journalists (at least at the time). It is telling that both leaders chose to frame the issue in primarily economic terms. Their answers consisted almost entirely of arguments around the costs of taking action on climate change, or the economic benefits of being "clean and green." This was noticed by one audience member interviewed on the

One News Tonight Debate Special, who said that neither candidate impressed her on environmental issues: “the answer I was looking for was that they cared about New Zealand and they cared about the environment, not about money and what it costs, and what other people think about us.” Coming in the midst of a global financial crisis, the leaders may have felt that economic issues would be the top priority for a majority of the public and so deliberately chose to frame the issue in this way. More broadly, it is indicative of the fact that environmental issues are not important enough to stand on their own merits. Clark did say in response to a question on “where we’re at with sustainability” that we should leave “a planet where there are still polar icecaps, where we’ve still got glaciers, where there are still the great tropical forests, where people are able to live on low-lying atolls – this is what is at stake if we don’t act.” By and large, however, the environment was subordinate to economic considerations.

The *One News Minor Party Leaders’ Debate* did not include any specific questions about environmental issues. There were a total of five environmental episodes over the 90 minutes, though their combined time was only one and a half minutes. Three of these were to do with the economic consequences of environmental policy – ACT Party leader Rodney Hide saying we should “dump the dopey Emissions Trading Scheme” because it would hold New Zealand back, while The Greens’ Jeanette Fitzsimons and New Zealand First leader Winston Peters talked about how being sustainable is good for business. Fitzsimons did say in her closing ‘vision statement’ that “children deserve to inherit our beautiful planet” with clean air and water, a stable climate, abundant fisheries and a good public transport and cycle network. As with the other debate, though, the main focus was on economic issues.

7.4.5: Visual Imagery in Environmental News

Another criterion for environmental issues making the news is striking visual imagery (Anderson, 1997). There were a number of stories like this in the sample, mainly in the domain of Nature. Such stories would most likely have not been deemed newsworthy if it were not for the images which they accompanied. One story, which



Figure 7.6: Kayakers and orcas on 3 News

appeared in both the 6:00pm and 10:30pm *3 News* bulletins, was viewer video of a pod of Orcas surrounded by kayakers off Auckland (figure 7.6). The piece lasted less than thirty seconds, during which voiceover gave some brief information about the creatures – “they’re actually part of the dolphin family.” Items such as this are not ‘news’ as such, but are included in bulletins as light relief from more ‘serious’ stories (in the 6:00 pm bulletin, the orca story immediately followed a piece about a gruesome murder trial). They provide a ‘safe zone,’ which, as Lowe and Morrison (1984) point out, is non-controversial yet emotionally engaging. This is the affective dimension of environmental news discussed by Cottle (1993), which celebrates rather than reports and links to wider cultural myths about nature. In this case, the item is like a bite-sized nature documentary, with images of the majesty of nature accompanied by scientific facts. Nature is presented as something to be viewed and admired by humans.



Figure 7.7: An existing waste oil plant, and the proposed site of the new one, from *One News*

Other stories communicated ideas about the environment more through their visual images than the words they used. *One News* ran a story about plans to build a waste oil plant in a small rural town, less than 100 metres from a school. The report did not actually give any specific health or environmental hazards that the plant would potentially pose. The story’s narrative was a familiar one of small-town folk fighting big business. Again, this presentation works to give the story resonance by tying into common cultural myths (Cottle, 1993). The anchor even introduced the story as “a David versus Goliath battle.” Shots of industrial facilities and oil tanks were juxtaposed with pictures of idyllic small-town life and a daisy growing in a field – the site where the new plant would be built (figure 7.7). The environment here represents innocence and tranquillity, aligned with the old-fashioned values of the decent small-town folk, which will be destroyed by the intrusion of modern industry. This is an example of what Delli

Carpini and Williams (1994) call the “nostalgic individualism” (93) common in environmental narratives, which promotes the idea that environmental problems can and should be solved through individual action informed by traditional values.

Most news stories in the Nature domain were to do with damage or accidents caused by weather events. There were a number of these during the sample – tornadoes in Cambridge, strong winds in Wellington, snow in Otago. Again, many of these stories probably would not exist if it were not for the footage which accompanies them. Often there was little to actually report, as there had been little damage done. Such stories relied instead primarily on dramatic visual images – trees fallen over, waves crashing across a road, downed powerlines. These stories frequently used the metaphor of a battle between nature and humans – “Wellington was today under siege from the weather,” according to *Nightline*. On *One News*, a tornado in Cambridge “snaked its way through town like a thief in the night” taking “a roof here, a tree there,” and for one woman “it stole her whole house.” This is in line with the common Western narrative portrayal of the environment as a “test and challenge for human resourcefulness” (Shanahan and McComas, 1999: 102). Economic considerations were rarely far from the equation, with damage calculated in monetary terms. *One News at 4:30* ran a very short piece about an unseasonable cold snap in the south. Shots of the snow-covered landscape and cows and sheep “taking shelter from the *freezing* sou-westers” were contrasted with the observation that it had been “good to the ski fields.”

8: DISCUSSION

8.1: Prevalence of Environmental Content

If the commercial imperatives of television broadcasting are at odds with environmental protection, it is not unexpected that the channels that operate with more of a public service ethos – TV One and Māori TV – have a greater proportion of environmental episodes. This finding is complicated somewhat by the fact that there was no relationship found between the presence of environmental episodes and whether a particular programme was publicly funded. This indicates that the overall focus of each channel may be more important in its approach to environmental content than individual programmes. Māori TV is essentially a public broadcaster, and TV One carries the majority of TVNZ's news and public service broadcasting while TV2 is much more commercially-oriented and entertainment-focused. However, some episodes on TV One and even Māori TV are consistent with what could be expected in terms of the DSP, while other episodes on TV2 or TV3 offer a challenge to the status quo. This indicates, as expected, that environmental representations are influenced by many different variables. The social and economic factors which encourage the perpetuation of the DSP through the mass media can only exert pressure in a general direction, and there are often exceptions at the level of individual programmes or participants within them. It is the broad tendencies of media coverage and cumulative representations which work to build up television's dominant ideological viewpoint.

The fact that there was no relationship between public funding and the presence of environmental episodes is not surprising in the context of NZOA's function. Its mission statement states that it will “fund programming on radio and television about New Zealand and New Zealand interests” (New Zealand On Air, n.d.), rather than more traditional public service goals of providing quality broadcast content. The majority of publicly funded television in New Zealand exists not to “inform, educate and entertain” as per the Reithian ideal (Horrocks, 2002) but is there mainly as a means of supporting local production. Given that NZOA-funded programmes still have to compete in a commercial broadcast environment it was perhaps to be expected that they would not mention the environment any more than other programmes.

Incidental or background references to the environment are a good way of gauging the extent to which it has penetrated the cultural consciousness. Though not especially informative about environmental issues, such references give these issues a background presence and visibility within popular culture. As Shanahan and McComas (1999) write, “although most of the images of specific environmental disasters and problems will eventually fade into memory, television’s daily attention (and/or lack of attention) to the environment will ... manifest a residual but lasting effect” (110). It is somewhat surprising that the environment is not brought up more frequently: Shanahan and McComas (1999) note that in periods of environmental hype, or when such issues have a high degree of prominence in the public consciousness, virtually everything can be connected to the environment through buzzword references. While this happened occasionally, references were scattered and did not appear with any degree of consistency. Data from public opinion surveys and analysis of media coverage suggests that public attention to and concern for the environment now is as high as it has ever been (ShapeNZ, 2008). In a news context, the fact that the environment is not brought up more often suggests that environmental issues, while increasingly newsworthy in their own right, are still not commonly taken into consideration by journalists when they are doing stories on other issues (as reported by Kolandai, 2008). The same is largely true of other genres of programming, with writers and producers apparently not incorporating references to the environment to the degree that might be expected given public attention to (and the seriousness of) the issue.

This raises the question as to whether environmental issues have achieved ‘breakthrough’ into popular culture, as outlined by Ungar (2000; see also section 3.2). Obviously many issues can fall under the umbrella of ‘the environment,’ and the meanings associated with it are diverse and differentiated. The interrelated concepts of climate change, sustainability and environmental protection are the most relevant in this regard. These were mentioned in a variety of contexts, though, as noted above, not as frequently as might be expected. In terms of meaning, such references often lacked context. Although they usually included the implicit assumption that protecting the environment is a positive thing, this was seldom linked to wider social processes or made relevant to viewers. The environment was presented as something that needed action, but the reasons why were often absent (this was perhaps best summed up by Labour leader Helen Clark in one of the election debates, when she defined ‘sustainability’ as “ensuring

we pass on to future generations a planet that is sustainable”). While television does provide increased visibility for environmental issues, it is questionable whether it provides the resources needed for audiences to properly understand the issues involved and take meaningful action. More research is needed into how audiences comprehend television’s environmental messages.

Often, the environment was more noticeable by its absence. No narrative-fictional programmes, for example, contained any environmental episodes. All were set either entirely or primarily indoors, and all but two took place in urban locations. Although they only made up a small percentage of the sample, it is notable that these programmes ignored the environment. Such programmes are seen in cultural indicators research “both as reflectors and shapers of predominant cultural attitudes” (Shanahan and McComas, 1999: 102). A complete absence of concern for (or even acknowledgement of) the environment can promote a worldview centred entirely on human concerns and intrinsically supportive of the DSP. This may be especially relevant in the New Zealand context, as locally-produced drama can act as a powerful force in shaping a sense of national cultural identity (Dunleavy, 2004).

8.2: Alternative Environmental Paradigms

There are references to alternative social and environmental paradigms across a number of programmes on all channels, although these are fairly diffuse and isolated. There is no evidence of a coherent New Environmental Paradigm posing a serious challenge to the current social order. Though television as a whole might promote a broadly hegemonic view of how society should operate and the place of the environment within it, this is not exclusive or entirely uncontested. Instances of challenges to the DSP have to be seen in their wider context. Mostly, these are relatively rare occurrences in the midst of conventional commercial programming. In the case of anti-corporate views expressed on *Sunrise*, for example, the overall ideological messages of the programme and the frequent commercial breaks that interrupt it are consistent with the DSP. The inclusion of this viewpoint is likely to appeal to the programme’s target audience: the show targets a young, urban demographic who are more likely to be sympathetic to this message. As Delli Carpini and Williams (1994a) note, “while it may be possible to find examples of counter-hegemonic messages in television shows, it is important not to lose

sight of the overall impact of the medium as an important mechanism for reinforcing the *status quo*” (95; emphasis in original). While certain programmes may at a surface level be critical of the role of government and business in environmental problems, this is blunted by a perspective which “excludes any responses to environmental problems that might call into question consumer culture, the political status quo, or present economic-industrial strategies” (*ibid*: 96).

8.2.1: The Environment on Māori TV

The most obvious counter to the dominant paradigm presented on television was from Māori TV and its incorporation of traditional knowledge and customs into its programming. Shanahan and McComas (1999) point out that the institutional character of television is at least partly responsible for its inattention to the environment, or its treatment of environmental issues as separated from everyday life and subordinate to economic concerns. As discussed earlier, this is not an inevitable result of the medium, but rather the way it is operated. If television were not operated under a commercial model, its treatment of the environment would likely be very different. This study supports this contention, with commercially-run television channels treating the environment very differently to the publicly-funded Māori TV.

McKibben (1992) writes that television “alters perception. TV, and the culture it anchors, masks and drowns out the subtle and vital information contact with the real world once provided” (22). In modern society, he argues, we have become divorced from the physical world, with little access to information about our impact on the world and the physical limits of nature. “This sense of limits of one particular place grants you some sense that the world as a whole has limits, a piece of information we’ve largely forgotten, in part because being a successful businessperson involves constantly breaking through limits” (*ibid*: 28). Shanahan and McComas (1999) partly attribute this disconnection from the physical environment to the rise of commercial factors in storytelling combined with western notions of individualism taking precedence. In this study, Māori TV offers both a different commercial model and a different cultural perspective. Shanahan and McComas (1999) point out that the “mass media have occasionally abetted the glorification of Native cultures, focusing predominantly on their ‘natural religion’ and low-impact lifestyle, with the implication that these lifestyles in fact were more ‘meaningful’ than our own lifestyle of consumption and waste” (64). As Māori TV programming is largely

produced by Māori and for a Māori audience, it largely avoids providing a romanticised portrayal of Māori culture's interaction with the environment. Environmental representations on Māori TV are instead anchored in the present and reflect modern issues and concerns, albeit informed by a respect for traditional knowledge and the wisdom of elders.

However, this programming is located in a specific cultural context, which, although gaining in visibility in New Zealand media, is unlikely to take over as the dominant lens through which environmental issues are viewed. In narrative terms, the audience being 'hailed' is mainly a Māori one and so the environmental knowledge communicated in these episodes may not resonate as strongly with a broader audience. This is in line with the purpose of Māori TV. Stephens (2004) notes that in the past, Māori programming was made about Māori but for a general audience so did not reflect Māori concerns. Although viewers are not positioned as individuals or consumers the way they mostly are on commercial television, the fact that they are also positioned as Māori may mean that this conception of the environment does not extend much beyond this specific context.

8.3: Dominant Portrayals of the Environment

At a surface level, most television portrayals of the environment are generally positive towards the idea of environmental protection. The most common conception of the environment, across all genres of programming, was one of threats to the natural world. This can encompass a wide range of circumstances, from political speeches to installing solar panels. What links them is the notion that human society is having a negative impact on natural systems (even the few episodes coded as 'environmentally unconcerned' at least tacitly acknowledged this). With this often comes an assumption that the harms caused by humans need to be minimised or prevented.

As reported above, less than ten percent of environmental episodes were coded as unconcerned about the environment, and all of these occurred in news or current affairs programmes. It is possible that environmental issues were treated in a slightly more negative light in news programmes because they are more threatening to the DSP in this context. Lowe and Morrison (1984), writing in the early 1980s, commented that should

the environmental lobby be seen as “posing a serious threat to the existing order, then it is probable that it would have to contend with more sceptical and less sympathetic environmental reporting” (88). Environmental reporting, particularly in relation to climate change, is not as negative or sceptical now as it was during much of the 1990s (Carvalho, 2007). However, despite environmental issues gaining more prominence and social acceptance in recent years, they can still involve ideas or solutions that run counter to the DSP. It is telling that half of all unconcerned episodes were in relation to the Green Party, who are the most visible proponents of a shift towards less environmentally-harmful practices in society.

8.3.1: The Environment as a Social Issue

The findings reported here do not support, to any great extent, Shanahan and McComas’ (1999) contention that the environment is devalued in the particular narrative space in which it is located. They argue that the environment was treated as a social ‘issue’ in entertainment programmes and as a lifestyle concern in news programmes, and was thus out of place according to the conventions of each (*ibid*). In this study, issues such as climate change and sustainability were largely confined to news and current affairs programmes. Environmental issues were, at times, discussed in political and business stories and featured prominently in electoral debates. This suggests the topic has matured somewhat into one that is worthy of discussion alongside other ‘serious’ issues. This is in contrast to Spellerberg *et al.* (2006) who found that very few New Zealand news stories mentioned issues around sustainability. It is possible that the number reported here was inflated due to coverage of the election campaign, where the environment was an issue. However, not all sustainability stories were election-related, and it is likely that this issue has grown in prominence since the Spellerberg *et al.* (*ibid*) study. Extreme weather events and natural disasters were the other major issue category in news and current affairs. Although such stories rarely mentioned environmental protection (and were hence mostly coded as ‘neutral’ towards the environment), they can work to present a view of the environment as a savage force that stands in opposition to the order of human society.

Of course, the environment frequently featured in ‘soft’ news and lifestyle stories as well. However, this was usually in the context of what might be called the ‘pristine environment,’ an innocent wilderness that has no connection or relevance to human

society beyond its natural beauty, with stories about telegenic animals predominating. Cottle (1993) points out that television news programmes work according to different informing epistemologies. His study found that environmental news stories were commonly presented as ‘soft’ news, fulfilling an affective role of popular engagement and linking to shared cultural myths. ‘Hard’ news portrayals of the environment were limited mainly to event-focused pollution or natural disaster stories, with little attention given to the social processes which caused them or wider political issues (*ibid*). The present study backs this up to a degree, with the nature of environmental reporting determined largely by the modality of the particular news context.

The fact that the majority of environmental episodes were split fairly evenly between the three domains of Nature, Politics and Individual/Family appears to support Cottle’s (1993) finding that television in general does not privilege one particular viewpoint of the environment. That business and politics were more associated with the environment in the news is not unexpected, as these themes are much more prevalent in news programming overall. This reflects the issue-based nature of news and current affairs, with environmental topics often needing to be linked to stories in the political or financial domain in order to become newsworthy (which also has the effect of framing them in terms acceptable in the DSP, as discussed by Wilkins, 1993).

It is of interest that the environment was not represented to a great degree in scientific terms. The low proportion of scientists could be seen as a cause for concern. Three of the eleven characters whose occupations were coded in the Science/Academic category appeared in one news story, and of the others one was a student interviewed as part of a political story and one was a child inventor. Although environmental coverage has, in the past, been criticised for relying too much on science at the expense of social concerns (Wilkins, 1993), it remains an important dimension to many environmental issues. Combined with the low number of episodes in the scientific domain, this finding raises concerns that science is becoming less of an important consideration in media portrayals of the environment. As Trumbo (1996) points out, for issues such as climate change it is imperative to have a public that is accurately informed. It is inevitable, and necessary, that for pressing environmental problems debate will shift towards how to respond to them. However, losing sight of the scientific principles on which the issue is founded makes it easier for the debate to be hijacked by other interest groups (*ibid*).

8.3.2: The Environment as a Lifestyle Concern

Non-news programmes in particular tended to focus more on the personal than the societal. Shanahan and McComas (1999) note that putting environmental issues on a personal level, while potentially increasing viewer perception of personal efficacy, works to depoliticise these issues and turn them into the type of problem that can be handled by ‘business as usual.’ Problems are individualised rather than systematised and can be solved by individuals rather than changes to social or institutional structures (Wilkins, 1993). The increased visibility of the environment in the media is likely at least partly responsible for the upsurge in public interest in the issue (though causation is, of course, difficult to determine). At any rate, greater public concern for the environment indicates that the message of environmental protection is resonating with large sections of the public. Protecting the environment, at an abstract, non-political level, is almost always presented on television in positive terms. It is only once it enters the realm of politics and business, where the practicalities of major societal change are broached and the DSP is threatened, that the environment becomes ideologically contested territory and is challenged. It should be stressed again, though, that this is not a strong tendency, with most environmental episodes in this context still displaying environmental concern.

The inclusion of environmental content in a manner that does not threaten the DSP can have several potential consequences. The positive associations of environmentalism can be attached to the programme or even the channel. Because protecting the environment is seen as a ‘good’ thing, this can enhance the programme’s brand image or the way it is perceived by audiences, especially those sympathetic to the environmental message. As long as it is devoid of political context, even viewers who do not identify themselves as environmentalists are unlikely to be put off by its inclusion. Portrayals of the environment can have a similar relationship with the promotion of consumer goods or services. When the environment is associated with buying, the product receives the positive connotations of being linked to the environment, and the act of consuming is made more ‘ethical’ or justifiable as marketers seek to “assuag[e] consumers’ incipient environmental concerns” (Shanahan, 1993: 181). This also, of course, works to support the DSP as the potentially anti-consumerist messages of environmentalism are appropriated for consumerist ends.

This is not to say that environmental episodes in this context are ineffectual in terms of promoting environmental protection. If the advice of episodes such as *Good Morning*'s eco-clothing segment were heeded, this would undoubtedly result in a positive outcome for the environment. The point is that this content is still mostly framed within the dominant conceptions of society's relationship to the environment, so does little to promote new ways of thinking about the systemic conditions that are responsible for much environmental degradation. Taken on their own and viewed side by side, the environmental episodes discussed here may make it look like television does a reasonable job of representing the environment. In the overall television landscape, however, these episodes tend to be infrequent and isolated. Even if some of them do promote an ideology consistent with the New Environmental Paradigm of sustainability and environmental protection, the vast majority of televisual content is broadly supportive of the DSP. As McKibben (1992) puts it, "the problem is not that the individual segments are too short – you can say a lot in a few minutes. It's that each thought is instantly replaced by another. ... Expecting that one exceptional program will matter is like expecting that you can eat french fries and gravy all week and then lower your cholesterol with a single spear of broccoli on Sunday night" (214-5). The 2.3% of New Zealand television that pays attention to the environment often does it well. It is the other 97.7% where it is ignored that speaks more about television's attitude towards the environment.

Recreational and lifestyle issues featured prominently in non-news programmes, with many environmental episodes showing, or at least telling, how viewers could adopt more environmentally friendly practices in their own lives. The majority of the environmental episodes in non-news programmes focused on the relationship between the environment and people's lifestyles. This is not to say that the environment was made directly relevant to people. In many cases it was positioned as something that was not of any great significance to people's everyday existence. This was especially the case with outdoor recreational activities, which almost by definition are in opposition to daily routine and were the biggest single issue category in non-news programmes. Although outdoor activities are separate from everyday routine, they are within the direct experience of the majority of the viewing audience, as opposed to the often abstract worlds of politics, business or science. Because such activities are separated from daily routine, they may not have much meaning for the audience in terms of environmental knowledge or have any effect on attitudes. As McKibben (1992) points out, "most of us

who do hike and fish do so sporadically, and out of such a single-minded desire for recreation that we don't absorb a lot of meaning from the experience" (28). The idea of the environment communicated here is that its main purpose is to serve as a recreational facility for urban-dwellers.

8.4: Meanings of the Environment on Television

Environmental content on New Zealand television is scattered and diverse. It is difficult to talk about how television represents 'the environment,' because there is little in the way of a unified concept of what the environment is across the various television portrayals. The environment can mean different things in different contexts. Four broad concepts of the environment can be identified based on the environmental episodes in the sample:

- The threatened environment, made up of local and planetary systems under threat from human activity.
- The pristine environment, a wilderness that is home to unfamiliar plants and animals, innocent in its disconnection from human society, a curiosity to be admired.
- The savage environment, the primal forces of nature that stand in opposition to the order of human society (most often seen in terms of violent or extreme weather).
- The recreational environment, a place for fun and to get away from the routine of urban life.

These four concepts of the environment do not account for every single reference to the environment on New Zealand television, and nor are they mutually exclusive. Most of the time, however, when television refers to environment it is primarily through one of these four frames. There is some overlap between them. Some episodes that mainly focused on the pristine environment, for example, mentioned the need to protect it and the threats posed by human impact. Episodes that made reference to the impacts of climate change (the threatened environment) sometimes invoked the savage environment, particularly the possibility of increased incidences of severe weather.

These concepts are similar in some respects to the ways viewers are encouraged to see the environment identified by Shanahan and McComas (1999) (see section 3.2.1 above). The environment is not shown as a source of jokes to the extent that it was in their study, and although environmentalists are in some contexts portrayed as “socially marginal,” the environment is also presented as a mainstream political and social issue.

Three of the four concepts – the pristine, savage and recreational environments – almost by definition position the environment as separate from normal life or as external to society’s core economic and political functions. The threatened environment, the most common of the four, often does so through its narrative content and discursive positioning. That the dominant conception of the environment on television is one where it is under threat from human influence shows that television does acknowledge, at a simple level, the environmental challenges facing the planet. The diversity of individual portrayals within this definition, encompassing a wide variety of programme genres, issues and domains, indicates that such issues are not being dominated by one particular interest group or viewpoint. However, though no one perspective dominates, very seldom does television question the fundamental social and economic processes and institutions that give rise to environmental harm, and environmental issues are often presented in isolation from wider concerns. At this level, television’s environmental coverage can be seen to be reinforcing the DSP and upholding the societal status quo.

9: CONCLUSION

This study shows that television focuses primarily on a human-centred world. Programmes take place primarily in urban settings and indoor locations. Environmental content is completely absent from almost three quarters of non-news programmes and over ninety percent of news stories. The environment, when it is mentioned, is frequently portrayed as being outside of this world, with little direct relevance to it or human society in general. Although most portrayals are positive towards the idea of environmental protection, the environment is frequently made subordinate to economic considerations or framed in consumerist terms, and is generally supportive of society's dominant social paradigm. These tendencies are strongest on the commercial television channels, with Māori TV displaying a markedly different approach to the environment.

There are some drawbacks to the methods used by this study. As it examined only television content, it cannot directly examine how audiences respond to television's environmental messages and how this is manifested in their attitudes and behaviours. As Corner and Richardson (1993) point out, "television programmes do not contain meaning but act as dense and complex cues for its production. Given that audiences are differentiated, and sometimes radically so, in the nature and use of the knowledge they draw upon when making sense of television, it is likely that interpreted meanings and values will show variation too" (222). Further research in this area could investigate how media representations interact with audience attitudes, beliefs and behaviours. In the New Zealand context, a full comparison of locally-produced environmental television with imported content, and the relative value ascribed to each by audiences, would be useful in showing the patterns of influence that shape environmental attitudes.

The relatively short timeframe of this study could have affected the results. This is particularly the case with analysis of news programmes, where particular events can influence the nature of coverage over the period. In this case, the sample was taken in the lead-up to a national election where the environment was a topic of debate. This had its advantages, as the amplified attention to environmental issues in the political domain allowed greater insights into their discursive construction than might otherwise have been the case. Nonetheless, a longitudinal study would give a better understanding of television's overall treatment of the environment. This would also uncover any changes

over time in attention to or treatment of the environment. Trumbo and Shanahan (2000) note that “examining the narrative content is worthwhile because increases and decreases in attention cycles can be seen as reflecting the development of a specific plot with specific narrative outcomes” (202).

Overall, no clear or coherent picture of New Zealand television’s representation of the environment emerges from this study. This was largely to be expected: the diversity of genres, programmes and cultures found on New Zealand television could hardly be expected to produce a common definition of something so broad or contested as the environment. Shanahan (1993) noted in the early 1990s that “the ideological content of the broad movement of public opinion towards ‘environmentalism’ is up for grabs” (181). This appears still to be the case, with the environment being used to fulfil a number of different ideological roles. The environment was both a frame for expressing anti-corporate views and a vehicle for selling products. It was a major topic of political debate, yet its main proponents in the political arena were often derided. Generally, although there was no unified meaning of the environment, most portrayals were at a surface level positive towards environmental protection, and at a deeper level tended to be supportive of the DSP and the social and economic status quo.

Whether television can, or even should, be used to advance a pro-environment agenda has been the subject of much debate. Shanahan and McComas (1999) argue that greater social progress may be made through channels that have “little to do with mass media or other institutions that uphold the DSP” (177), and efforts should be focused instead on grassroots social movements. For any serious change to take place, it seems that it will be necessary to redefine and reorient television’s approach to the environment. Television presents the environment as not having great relevance to the audience’s everyday lives, and in its own most common definitions of the environment, it probably doesn’t. Yet television by and large fails to inform us of the environmental consequences of our actions and does not alert us to the effects we are having on the planet, which is the reality. If public interest in and concern for the environment continues to rise, it is likely this will be accompanied at least by a quantitative increase in environmental content in television programming, though if the subtext of these messages remains the same the positive impact of this for the environment may be limited. A greater recognition of the link between social practices and the environment throughout television content would be

necessary for real change to occur, though whether this is possible in the current commercial paradigm remains doubtful.

REFERENCES

- Allan, S. (1999) *News Culture*. Buckingham: Open University Press.
- Anderson, A. (1997) *Media, Culture and the Environment*. London: UCL Press.
- Baker, C. (1994) *Advertising and a Democratic Press*. Princeton: Princeton University Press.
- Bell, A. (1991) *The Language of the News Media*. Oxford: Blackwell.
- Bell, A. (1994) 'Media (mis)communication on the science of climate change.' *Public Understanding of Science* 3: 259-275.
- Bell, C. (2002) 'All We Need to Know Because TV Tells Us So' in Farnsworth, J. and Hutchison, I. (eds.) *New Zealand Television: A Reader*: 21-30. Palmerston North: Dunmore Press.
- Beniger, J. (1987) 'Toward and Old New Paradigm: The Half-Century Flirtation With Mass Society.' *The Public Opinion Quarterly* 51(2): S46-S66.
- Blumler, J., and Gurevitch, M. (1992) 'The political effects of mass communication' in Gurevitch, M., Bennett, T., Curran, J., and Woollacott, J. (eds.) *Culture, Society and the Media*: 236-267. London: Routledge.
- Bord, R., O'Connor, R., and Fischer, A. (2000) 'In what sense does the public need to understand global climate change?' *Public Understanding of Science* 9(3): 205-218.
- Brossard, D., Shanahan, J., and McComas, K. (2000) 'Is Mass Media Coverage of Global Warming Culturally Bound? A Comparison of French and American Coverage of Global Climate Change.' *Paper presented to Climate Change Communication Conference*, June 2000. Online at <http://www.fes.uwaterloo.ca/research/climateconference/B2.pdf>, accessed 7 March 2009.
- Bulkeley, H. (2000) 'Common knowledge? Public understanding of climate change in Newcastle, Australia.' *Public Understanding of Science* 9: 313-333.
- Carvalho, A. (2007) 'Ideological cultures and media discourses on scientific knowledge: re-reading news on climate change.' *Public Understanding of Science* 16(2): 223-243.
- Corner, J. and Richardson, K. (1993) 'Environmental Communication and the Contingency of Meaning: A Research Note' in Hansen, A. (ed.) *The Mass Media and Environmental Issues*: 222-33. Leicester: Leicester University Press.
- Cottle, S. (1993) 'Mediating the environment: Modalities of TV news' in Hansen, A. (ed.), *The Mass Media and Environmental Issues*: 181-197. Leicester: Leicester University Press.

- Craig, G. (2008) 'Aotearoa/New Zealand print news media reportage of the environment.' *Media International Australia* 127 (May): 152-165.
- Croteau, D. and Hoynes, W. (2003) *Media/Society*. 3rd edition. Thousand Oaks: Pine Forge Press.
- Dant, T. (2003) *Critical Social Theory*. London: Sage.
- Deacon, D., Pickering, M., Golding, P., and Murdock, G. (1999) *Researching Communications*. New York: Hodder Arnold.
- Delli Carpini, M. and Williams, B. (1994a) "'Fictional" and "Non-Fictional" Television Celebrates Earth Day: or, Politics is Comedy plus Pretense.' *Cultural Studies* 8(1): 74-98.
- Delli Carpini, M. and Williams, B. (1994b) 'Methods, Metaphors, and Media Research: The Uses of Television in Political Conversations.' *Communication Research* 21(6): 782-812.
- Dispensa, J., and Brulle, R. (2003) 'Media's social construction of environmental issues: Focus on global warming – A comparative study.' *The International Journal of Sociology and Social Policy* 23(10): 74-105.
- Downs, A. (1972) 'Up and Down With Ecology: The "Issue-Attention Cycle."' *The Public Interest* 28: 38-50. Online at <http://www.anthonydowns.com/upanddown.htm>, accessed 3 March 2008.
- Dunleavy, T. (2004) 'Made in New Zealand: The Genre of Television Drama' in Horrocks, R. and Perry, N. (eds.) *Television in New Zealand: Programming the Nation*: 203-221. Melbourne: Oxford University Press.
- Dyer, G. (2008) *Climate Wars*. Melbourne: Scribe.
- Einsiedel, E. and Coughlan, E. (1993) 'The Canadian press and the environment: reconstructing a social reality' in Hansen, A. (ed.), *The Mass Media and Environmental Issues*: 134-149. Leicester: Leicester University Press.
- Ehrlich, P. and Ehrlich, A. (2008) 'Too Many People, Too Much Consumption.' *Yale Environment* 360. Online at <http://e360.yale.edu/content/feature.msp?id=2041>, accessed 3 March 2009.
- Eurobarometer* (2008) 'Attitudes of European Citizens Towards the Environment.' Online at http://ec.europa.eu/public_opinion/archives/ebs/ebs_295_en.pdf, accessed 20 April 2008.
- Fulton, H. (2005) 'The Power of Narrative' in Fulton, H. (ed.) *Narrative and Media*: 1-7. Cambridge: Cambridge University Press.
- Funkhouser, G. (1973). 'The Issues of the Sixties: An Exploratory Study in the Dynamics of Public Opinion.' *Public Opinion Quarterly*, 37(1): 62-75.

- Gelbspan, R. (2004) *Boiling Point: How Politicians, Big Oil and Coal, Journalists, and Activists have Fueled the Climate Crisis – and What We Can Do to Avert Disaster*. New York: Basic Books.
- Gerbner, G. (1998) 'Cultivation Analysis: An Overview.' *Mass Communication and Society* 1(3): 175-194.
- Gerbner, G., Gross, L., Morgan, M., Signorielli, N., and Shanahan, J. (2002) 'Growing Up With Television: Cultivation Processes' in Byrant, J. and Zillman, D. (eds.) *Media Effects: Advances in Theory and Research* (2nd edition): 43-68. Mahwah, NJ: Lawrence Erlbaum Associates.
- Gitlin, T. (1980) *The Whole World is Watching*. Berkeley: University of California Press.
- Glascok, J. (2001) 'Gender roles on prime-time network television – demographics and behaviors.' *Journal of Broadcasting and Electronic Media* 45(4): 656-669.
- Golding, P. and Elliott, P. (1999) 'Making the News' in Tumber, H. (ed.) *News: A Reader*: 112-120. Oxford: Oxford University Press.
- Goldman, R., and Papson, S. (1996) *Sign Wars: The Cluttered Landscape of Advertising*. New York: Guilford Press.
- Good, J. (2000) 'The Case Study of Climate Change: The Nature of Risk and the Risk of Nature.' *Paper presented to Climate Change Communication Conference*, June 2000. Online at <http://www.fes.uwaterloo.ca/research/climateconference/B2.pdf>, accessed 12 April 2008.
- Hall, S. (1980) 'Encoding/Decoding' in Hall, S., Hobson, D., Lowe, A., and Willis, P. (eds.) *Culture, Media, Language*: 128-138. London: Hutchison.
- Hall, S. (1992) 'The rediscovery of "ideology": the return of the repressed in media studies' in Gurevitch, M., Bennett, T., Curran, J., and Woollacott, J. (eds.) *Culture, Society and the Media*: 56-90. London: Routledge.
- Hansen, A. (1993) 'Introduction' in Hansen, A. (ed.), *The Mass Media and Environmental Issues*: xv-xxii. Leicester: Leicester University Press.
- Hansen, A. (1994) 'Journalistic practices and science reporting in the British press.' *Public Understanding of Science* 3: 111-134.
- Holbert, R., Kwak, N., and Shah, D. (2003) 'Environmental Concern, Patterns of Television Viewing, and Pro-Environmental Behaviors: Integrating Models of Media Consumption and Effects.' *Journal of Broadcasting and Electronic Media* 47(2): 177-196.
- Horrocks, R. (2004a) 'Studying New Zealand Television: Themes, Methods, Perspectives' in Horrocks, R. and Perry, N. (eds.) *Television in New Zealand: Programming the Nation*: 5-19. Melbourne: Oxford University Press.

- Horrocks, R. (2004b) 'Television Programming: The Dynamics of the Schedule' in Horrocks, R. and Perry, N. (eds.) *Television in New Zealand: Programming the Nation*: 184-198. Melbourne: Oxford University Press.
- Horrocks, R. (2002) 'Conflicts and Surprises in New Zealand Television' in Farnsworth, J. and Hutchison, I. (eds) *New Zealand Television: A Reader*: 245-259. Palmerston North: Dunmore Press.
- Howard-Williams, R. (2009) 'Ideological Construction of Climate Change in Australian and New Zealand Newspapers' in Boyce, T. and Lewis, J. (eds.) *Climate Change and the Media*. Peter Lang.
- IPCC (2007) 'Summary for Policymakers' in Solomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K., Tignor, M., and Miller, H. (eds.) *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press. Online at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>, accessed 10 March 2009.
- Iyengar, S., and Kinder, D. (1987) *News That Matters: Television and American Opinion*. Chicago: University of Chicago Press.
- Kenix, L.J. (2007) 'An analysis of climate change narratives in the alternative press of New Zealand.' *Paper presented to Hawaii International Conference on Social Sciences*, May 2007. Online at <http://hdl.handle.net/10092/598>, accessed 23 July 2008.
- Kolandai, K. (2008) 'Greening the Journalism Curriculum: Impact of a Pilot Module on Sustainability and its Implications for Curriculum Development.' *Presentation to the 8th Australasian Campuses Towards Sustainability Conference*, October 2008. Online at <http://acts.asn.au/conferences/2008-acts-conference>, accessed 26 February 2009.
- Krippendorff, K. (2004) *Content Analysis: An Introduction to its Methodology*. Thousand Oaks, California: Sage Publications.
- Larsen, P. (1999) 'Imaginary Spaces: Television, Technology and Everyday Consciousness.' In Gripsrud, J. (ed.) *Television and Common Knowledge*: 108-122. London: Routledge.
- Lauzen, M. and Dozier, D. (2004) 'Evening the score in prime time – the relationship between behind-the-scenes women and on-screen portrayals in the 2002-2003 season.' *Journal of Broadcasting and Electronic Media* 48(3): 484-500.
- Lealand, G. (2002) 'Regulation – What Regulation? Cultural Diversity and Local Content in New Zealand Television' in Farnsworth, J. and Hutchison, I. (eds.) *New Zealand Television: A Reader*: 210-224. Palmerston North: Dunmore Press.
- Lowe, P., and Morrison, D. (1984) 'Bad News or Good News: Environmental Politics and the Mass Media.' *Sociological Review* 32(1): 75-90.

- Lowy, J. (2004) 'America's 18,000 Golf Courses Are Devastating the Environment.' *Scripps Howard News Service*, 22 April. Online at <http://www.organicconsumers.org/corp/golf042604.cfm>, accessed 7 March 2009.
- Macnachten, P., and Jacobs, M. (1997) 'Public identification with sustainable development: Investigating cultural barriers to participation.' *Global Environmental Change* 7(1): 5-24.
- Māori Television (2006) 'About Māori Television.' Online at <http://corporate.maoritelevision.com/about.htm>, accessed 29 July 2008.
- Māori Television (2009) 'Programmes – Lifestyle and Entertainment.' Online at http://www.maoritelevision.com/programmes/lifestyle/lifestyle_entertainment.htm, accessed 7 March 2009.
- Mazur, A., and Lee, J. (1993) 'Sounding the Global Alarm: Environmental Issues in the US National News.' *Social Studies of Science* 23(4): 681-720.
- McChesney, R. (1999) 'The New Global Media.' *The Nation*, November 29. Online at <http://www.thenation.com/doc/1999/1129/mcchesney>, accessed 5 March 2009.
- McComas, K. and Shanahan, J. (1999) 'Telling Stories About Global Climate Change: Measuring the Impact of Narratives on Issue Cycles.' *Communication Research* 26(1): 30-57.
- McComas, K., Shanahan, J., and Butler, J. (2001) 'Environmental Content in Prime-Time Network TV's Non-News Entertainment and Fictional Programs.' *Society & Natural Resources* 14(6): 533-542.
- McCombs, M. and Ghanem, S. (2001) 'The Convergence of Agenda Setting and Framing' in Reese, S., Gandy, O., and Grant, A. (eds.) *Framing Public Life*: 67-82. Mahwah, NJ: Lawrence Erlbaum Associates.
- McCombs, M., and Shaw, D. (1972). 'The Agenda-Setting Function of Mass Media.' *Public Opinion Quarterly*, 36(2): 176-187.
- McCombs, M., and Shaw, D. (1993). 'The Evolution of Agenda-Setting Research: Twenty-Five Years in the Marketplace of Ideas.' *Journal of Communication*, 43(2): 58-67.
- McLeod, J., Glynn, C., and Griffin., R. 1987. 'Communication and energy conservation.' *Journal of Environmental Education* 18(3): 29-37.
- McKibben, B. (1992) *The Age of Missing Information*. New York: Random House.
- Meadows, D. (1991) 'Changing the World through the Informationsphere' in LaMay, C. and Dennis, E. (eds.) *Mass media and the environment*: 67-79. Washington, DC: Island Press.
- Meyrowitz, J. (1985) *No Sense of Place*. New York: Oxford University Press.

- Morley, D. (1993) 'Active Audience Theory: Pendulums and Pitfalls.' *Journal of Communication*, 43(4): 13-19.
- Morgan, M. and Signorielli, N. (1990) 'Cultivation Analysis: Conceptualization and Methodology' in Signorielli, N. and Morgan, M. (eds.) *Cultivation Analysis: New Directions in Media Effects Research*: 13-34. Newbury Park, CA: Sage.
- Murch, A. (1971) 'Public Concern for Environmental Pollution.' *Public Opinion Quarterly* 35(1): 100-106.
- Nelkin, D. (1987) *Selling Science: How the Press Covers Science and Technology*. New York: W. H. Freeman and Company.
- New Zealand On Air (n.d.) 'Values and Mission.' Online at http://www.nzonair.govt.nz/vision_and_mission.php, accessed 3 March 2009.
- New Zealand On Air (2007) 'Television Local Content Report 2006.' Online at http://www.nzonair.govt.nz/files/about/lc_report_06.pdf, accessed 7 April 2008.
- Nissani, M. (1999) 'Media Coverage of the Greenhouse Effect.' *Population and Environment* 21(1): 27-43.
- NZTBC (2008a) 'Time Spent Viewing.' Online at http://nztbc.co.nz/research/story.html?story_time_spent_viewing.inc, accessed 10 March 2009.
- NZTBC (2008b) 'The Changing Home Environment: 1975-2006.' Online at http://nztbc.co.nz/research/story.html?story_changing_home_enviroment.inc, accessed 10 March 2009.
- Perry, N. (2004) 'Getting the Picture: State Regulation, Market Making, and Cultural Change in the New Zealand Television System' in Horrocks, R. and Perry, N. (eds.) *Television in New Zealand: Programming the Nation*: 74-89. Melbourne: Oxford University Press.
- Postman, N. (1987) *Amusing Ourselves to Death*. London: Methuen.
- Postman, N. (2000) 'The Social Effects of Commercial Television' in Anderson, R. and Strate, L. (eds.) *Critical Studies in Media Commercialism*, 47-53. Oxford: Oxford University Press.
- Potter, E., and Oster, C. (2008) 'Communicating climate change: Public responsiveness and matters of concern.' *Media International Australia* 127 (May): 116-126.
- Riffe, D., Lacy, S., and Drager, M. (1996a) 'Sample size in content analysis of weekly news magazines.' *Journalism and Mass Communication Quarterly* 73(3): 635-644.

- Riffe, D., Lacy, S., Nagovan, J., & Burkum, L. (1996b). 'The effectiveness of simple random and stratified random sampling in broadcast news content analysis.' *Journalism and Mass Communication Quarterly* 73(1): 159-168.
- Sánchez-Medina, A., Romero-Quintero, L., and Gutiérrez-Padrón, Á. (2008) 'A tool for the control of environmental management in golf courses.' *Measuring Business Excellence* 12(4): 13-21.
- Scheufele, D. and Tewksbury, D. (2007) 'Framing, Agenda Setting, and Priming: The Evolution of Three Media Effects Models.' *Journal of Communication* 57(1): 9-20.
- Schiller, H. (1989) *Culture, Inc.* New York: Oxford University Press.
- Schiller, H. (2000) 'Corporatizing Communication and Culture' in *Living in the Number One Country*: 131-146. New York: Seven Stories Press.
- Shanahan, J. (1993) 'Television and the Cultivation of Environmental Concern: 1988-92' in Hansen, A. (ed.), *The Mass Media and Environmental Issues*: 181-97. Leicester: Leicester University Press.
- Shanahan, J. (1996) 'Green but Unseen: Marginalizing the Environment on Television' in Morgan, M. and Leggett, S. (eds.) *Mainstream(s) and margins: cultural politics in the 90s*: 176-193. Westport, CT: Greenwood.
- Shanahan, J. and Good, J. (2000) 'Heat and hot air: influence of local temperature on journalists' coverage of global warming.' *Public Understanding of Science* 9: 285-295.
- Shanahan, J. and McComas, K. (1999) *Nature stories: depictions of the environment and their effects*. Cresskill, NJ: Hampton Press.
- Shanahan, J. and McComas, K. (1997) 'Television's portrayal of the environment: 1991-1995.' *Journalism and Mass Communication Quarterly* 74(1): 147-159.
- ShapeNZ (2008) *New Zealanders' Views on Climate Change and Emissions Trading*. Online at <http://www.nzbcscd.org.nz/story.asp?id=865>, accessed 13 August 2008.
- Signorielli, N., and Gerbner, G. (1988) *Violence and Terror in the Mass Media: An Annotated Bibliography*. Westport, Connecticut: Greenwood Press.
- Spellerberg, I., Buchan, G., and Early, N. (2006) 'Television and environmental sustainability: Arguing a case for a code of standards in New Zealand.' *Pacific Journalism Review*, 12(2): 137-147.
- Stamm, K., Clark, F., and Eblacas, P. (2000) 'Mass communication and public understanding of environmental problems: the case of global warming.' *Public Understanding of Science*, 9: 219-237.

- Statistics New Zealand (2008a) *New Zealand: An Urban/Rural Profile Update*. Online at <http://www.stats.govt.nz/statistics-by-area/urban-rural-profiles/default.htm>, accessed 3 February 2009.
- Statistics New Zealand (2008b) *Profile of New Zealander Responses, Ethnicity Question: 2006 Census*. Online at <http://www.stats.govt.nz/NR/rdonlyres/EA0F8124-619C-47B3-ADB7-CBB28F44AE85/0/ProfileofNewZealanderCensus2006.pdf>, accessed 3 February 2009.
- Stephens, T. (2004) 'Maori Television' in Horrocks, R. and Perry, N. (eds.) *Television in New Zealand: Programming the Nation*: 107-115. Melbourne: Oxford University Press.
- Trumbo, C. (1996) 'Constructing climate change: claims and frames in US news coverage of an environmental issue.' *Public Understanding of Science* 5: 269-283.
- Trumbo, C., and Shanahan, J. (2000) 'Social research on climate change: where we have been, where we are, and where we might go.' *Public Understanding of Science* 9: 199-204.
- TVNZ (2008) 'The TVNZ Charter.' Online at <http://tvnz.co.nz/view/page/826505/823782>, accessed 1 August 2008.
- Ungar, S. (2000) 'Why Climate Change is Not in the Air: Popular Culture and the Whirlwind Effect.' *Paper presented to Climate Change Communication Conference*, June 2000. Online at <http://www.fes.uwaterloo.ca/research/climateconference/A2.pdf>, accessed 23 May 2008.
- White, M. (1992) 'Ideological Analysis and Television' in Allen, R. (ed.) *Channels of Discourse, Reassembled*: 121-151. Chapel Hill: University of North Carolina Press.
- Wilkins, L. (1993) 'Between facts and values: print media coverage of the greenhouse effect, 1987-1990.' *Public Understanding of Science* 2: 71-84.
- Wilkins, L. (2000) 'Was El Nino a weather metaphor – a signal for global warming?' in Chagnon, S. (ed.) *El Niño, 1997-1998: The Climate Event of the Century*. Oxford: Oxford University Press.
- Wilkins, L. and Patterson, P. (1987) 'Risk analysis and construction of news.' *Journal of Communication* 37(3): 80-93.
- Woollacott, J. (1992) 'Messages and Meanings' in Gurevitch, M., Bennett, T., Curran, J., and Woollacott, J. (eds.) *Culture, Society and the Media*: 91-111. London: Routledge.
- World Bank (2008) *Little Green Data Book 2008*. Online at <http://siteresources.worldbank.org/ENVIRONMENT/Resources/LGDB2008.pdf>, accessed 23 July 2008.

Zehr, S. (2000) 'Public Representations of Scientific Uncertainty about Global Climate Change.' *Public Understanding of Science* 9: 85–103.

APPENDIX I: LIST OF PROGRAMMES IN THE SAMPLE

Week	Date	Day	Slot A: 6am-11:59am	Slot B: 12pm-5:59pm	Slot C: 6pm-11:59pm
1	7/10	Tuesday	TV 3 <ul style="list-style-type: none"> • 1 - Impact for Life • 2 - ASB Business • 3 - Sunrise 	TV 2 <ul style="list-style-type: none"> • 4 - Jane and the Dragon 	TV 3 <ul style="list-style-type: none"> • 5 - 3 News • 6 - Campbell Live • 7 - Downsize Me • 8 - Outrageous Fortune • 9 - Nightline • 10 - Sports Tonight
1	8/10	Wednesday	Māori TV	Māori TV <ul style="list-style-type: none"> • 11 - Korero Mai 	Māori TV <ul style="list-style-type: none"> • 12 - Te Tepu • 13 - Kowhiri 2008 • 14 - Ruahine • 15 - Marae • 16 - Te Kaea
1	9/10	Thursday	TV 2	TV One <ul style="list-style-type: none"> • 17 - One News Midday • 18 - One News 4:30 • 19 - Wheel of Fortune 	TV One <ul style="list-style-type: none"> • 20 - One News • 21 - Close up • 22 - One News Tonight • 23 - Tagata Pasifika
1	10/10	Friday	TV 2	TV One <ul style="list-style-type: none"> • 24 - One News Midday • 25 - One News 4:30 • 26 - Wheel of Fortune 	TV 3 <ul style="list-style-type: none"> • 27 - 3 News • 28 - Campbell Live • 29 - A Thousand Apologies • 30 - The Millen Baird Show • 31 - Nightline • 32 - Sports Tonight
1	11/10	Saturday	Māori TV	Māori TV <ul style="list-style-type: none"> • 33 - 10th Festival of Pacific Arts 	Māori TV <ul style="list-style-type: none"> • 34 - Freestyle • 35 - Pacific Beat St • 36 - Desperate Remedies • 37 - Te Aoturoa • 38 - Te Kaea
1	12/10	Sunday	Māori TV	Māori TV <ul style="list-style-type: none"> • 39 - Whare Tapere 	Māori TV <ul style="list-style-type: none"> • 40 - Kete Aronui: Moana Maniopoto • 41 - Tamaiti • 42 - Toitu te Whenua • 43 - Kai Time on the Road • 44 - Marae DIY • 45 - Te Kaea

Week	Date	Day	Slot A: 6am-11:59am	Slot B: 12pm-5:59pm	Slot C: 6pm-11:59pm
1	13/10	Monday	Māori TV	Māori TV	Māori TV •46 - Native Affairs •47 - Tangaroa with Pio •48 - Te Kaea
2	14/10	Tuesday	TV One •49 – NZI Business •50 - Breakfast •51 - Good Morning	TV One •52 - Midday •53 - Whanau •54 - One News 4:30 •55 - Wheel of Fortune	TV One •56 - One News •57 - One News YouTube Leaders Debate •58 - Who Want to be a Millionaire •59 - One News Tonight
2	15/10	Wednesday	TV One •60 – NZI Business •61 - Breakfast •62 - Good Morning	TV 2 •63 - Studio 2	TV 3 •64 - 3 News •65 - Campbell Live •66 - Nightline •67 - Sports Tonight
2	16/10	Thursday	TV One •68 – NZI Business •69 - Breakfast •70 - Good Morning	TV 2 •71 - Zip and Mac •72 - Studio 2	TV 3 •73 - 3 News •74 - Campbell Live •75 - Nightline •76 - Sports Tonight •77 - The Golf Club
2	17/10	Friday	TV 3 •78 - ASB Business •79 - Sunrise	TV 3 •80 - 3 News Midday •81 - Sticky TV	TV One •82 - One News •83 - Close Up •84 - One News Tonight
2	18/10	Saturday	TV 2 •85 - Let's Get Inventin' •86 - I AM TV	TV 2	TV 2
2	19/10	Sunday	TV 3 •87 - Pukana •88 - Official NZ Top 40	TV 3	TV 2 •89 - The Zoo
2	20/10	Monday	TV One •90 - NZI Business •91 - Breakfast •92 - Good Morning	TV One •93 - One News Midday •94 - One News 4:30 •95 - Wheel of Fortune	TV 3 •96 - 3 News •97 - Campbell Live •98 - 60 Minutes •99 - Nightline •100 - Sports Tonight

Week	Date	Day	Slot A: 6am-11:59am	Slot B: 12pm-5:59pm	Slot C: 6pm-11:59pm
3	21/10	Tuesday	TV 2 • 101 - The Go Show • 102 - Korero Mai – Speak to Me	TV 3 • 103 - 3 News Midday • 104 - Sticky TV	TV 2 • 105 - Shortland Street
3	22/10	Wednesday	TV 2 • 106 - Korero Mai – Speak to Me	TV 3 • 107 - 3 News Midday • 108 - Sticky TV	TV One • 109 - One News • 110 - Close Up • 111 - Fair Go • 112 - One News Tonight
3	23/10	Thursday	Māori TV	Māori TV	Māori TV • 113 - Te Kaea
3	24/10	Friday	Māori TV	Māori TV	Māori TV • 114 - Meke My Waka • 115 - Maorioke • 116 - Native Affairs • 117 - Te Kaea
3	25/10	Saturday	TV 3 • 118 - Pacific Beat Street	TV One	TV 3 • 119 - 3 News
3	26/10	Sunday	TV 2	TV One • 120 - Motorsport	TV 3 • 121 - 3 News
3	27/10	Monday	TV 2	TV 3 • 122 - 3 News Midday • 123 - Sticky TV	TV One • 124 - One News • 125 - One News Minor Party Leaders' Debate • 126 - One News Tonight Debate Special
4	28/10	Tuesday	Māori TV	Māori TV	Māori TV • 127 - No-Sweat Parenting • 128 - Kowhiri 2008 • 129 - The Table Plays – In the Garden Shed • 130 - Boil Up Reheated • 131 - Te Kaea
4	29/10	Wednesday	TV 3 • 132 - ASB Business • 133 - Sunrise	TV One • 134 - One News Midday • 135 - Whanau • 136 - One News 4:30 • 137 - Wheel of Fortune	TV 2 • 138 - Shortland Street • 139 - Performance Car TV

Week	Date	Day	Slot A: 6am-11:59am	Slot B: 12pm-5:59pm	Slot C: 6pm-11:59pm
4	30/10	Thursday	TV 3 • 140- Sunrise	TV 3 • 141 - 3 News Midday • 142 - Sticky TV	TV 2 • 143 - Shortland Street • 144 - SCU – Serious Crash Unit • 145 - Police Ten 7 • 146 - 20/20
4	31/10	Friday	TV One • 147 - NZI Business • 148 - Breakfast • 149 - Good Morning	TV 2 • 150 - Studio 2	TV 2 • 151 - Shortland Street
4	1/11	Saturday	TV One • 152 - Whanau • 153 - Business Weekend • 154 - Best of Breakfast • 155 - Rural Delivery	TV 3 • 156 - Fishing Show	TV One • 157 - One News • 158 - Homegrown
4	2/11	Sunday	TV One • 159 - Asia Downunder • 160 - Praise Be • 161 - Attitude • 162 - Agenda • 163 - Eye to Eye	TV 2 • 164 - Netball	TV One • 165 - One News • 166 - Off the Radar • 167 - Sunday • 168 - The Pretender • 169 - Westfield Style Pasifika 2008
4	3/11	Monday	TV 3 • 170 - ASB Business • 171 - Sunrise	TV 2 • 172 - Studio 2	TV 2 • 173 - Shortland Street

APPENDIX II: CODING SCHEDULE FOR PROGRAMMES

1. Programme #
2. Programme Name
3. Channel
 1. TV One
 2. TV 2
 3. TV 3
 4. Māori TV
4. Time
5. Date
6. Length
7. Funding
 0. No Public Funding
 1. New Zealand on Air
 2. Te Māngai Pāho
 3. NZ Film Commission
8. Genre
 1. News
 2. Current affairs
 3. Magazine/lifestyle
 4. Reality/game show
 5. Narrative/Fictional
 6. Children's
 7. Movie
 8. Sport
9. Setting
 0. Unable to code
 1. Urban
 2. Small town
 3. Rural
 4. Uninhabited
 5. Mobile
 6. Mixed/multiple
10. Narrative Location
 0. Unable to code
 1. All in studio
 2. Primarily in studio
 3. Even time inside and outside
 4. Primarily outside
 5. All outside
11. Number of environmental episodes in programme
12. Total length of environmental episodes in programme

Themes

1. Relationships between Genders/Sex
 0. Absent
 1. Minor
 2. Secondary
 3. Primary
2. Health
3. Science
4. Nature
5. Religion
6. Home/Family
7. Financial Success/Money
8. Education
9. Supernatural
10. Politics
11. Consumer Issues
12. Minorities
13. Business
14. Military
15. Media/Entertainment
16. Law Enforcement/Crime

APPENDIX III: CODING SCHEDULE FOR NEWS AND CURRENT AFFAIRS STORIES

1. Programme #
2. Programme Name
3. Story #
4. Channel
 1. TV One
 2. TV 2
 3. TV 3
 4. Māori TV
5. Time
6. Date
7. Length
8. Number of Environmental Episodes in Story
9. Setting
 0. Unable to code
 1. Urban
 2. Small town
 3. Rural
 4. Uninhabited
 5. Mobile
 6. Mixed/multiple
10. Narrative Location
 0. Unable to code
 1. All in studio
 2. Primarily in studio
 3. Even time inside and outside
 4. Primarily outside
 5. All outside
11. Story Prominence
 1. Lead segment
 2. Mid-programme
 3. Sports segment
 4. Weather segment
 5. End of programme
12. Brief description of story topic

Themes

1. Relationships between Genders/Sex
 0. Absent
 1. Minor
 2. Secondary
 3. Primary
2. Health
3. Science

4. Nature
5. Religion
6. Home/Family
7. Financial Success/Money
8. Education
9. Supernatural
10. Politics
11. Consumer Issues
12. Minorities
13. Business
14. Military
15. Media/Entertainment
16. Law Enforcement/Crime
17. Courts
18. Human Interest
19. Accident/Emergency
20. Sport

APPENDIX IV: CODING SCHEDULE FOR ENVIRONMENTAL EPISODES

1. Episode #
2. In programme #
3. Length of episode
4. Level of environmental concern
 0. Unconcerned
 1. Neutral
 2. Concerned
5. Issue of primary concern in the episode
 0. General nature/environment
 1. Animals/Species protection
 2. Climate Change/Global Warming
 3. Sustainable Development
 4. Green Living
 5. Outdoors
 6. Weather/Disaster
 7. Scenery/Beauty
 8. Pollution
 9. Other
6. Domain
 1. Individual/Family
 2. Community/Collective
 3. Politics
 4. Business
 5. Nature
 6. Science
7. Brief description of the episode, including its context within the programme's narrative.

Demographics of main character in episode

8. Gender
 0. Unknown
 1. Male
 2. Female
9. Ethnicity
 0. Unknown
 1. White/Pakeha
 2. Maori/Pacific
 3. Asian
 4. Other

10. Age

- 0. Unknown
- 1. Child/Adolescent
- 2. Young adult
- 3. Middle aged
- 4. Elderly

11. Nationality

- 0. Unknown
- 1. New Zealander
- 2. Other

12. Socioeconomic status

- 0. Unknown
- 1. Lower class
- 2. Middle class
- 3. Upper class

13. Occupation

- 0. Unknown
- 1. Reporter/Presenter
- 2. Entertainment/Arts
- 3. Business
- 4. Government/Politician
- 5. Education/Science/Academic
- 6. Other